CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

364 Knollcrest Drive, Suite 205, Redding, California 96002
Phone (530) 224-4845 • Fax (530) 224-4857
http://www.waterboards.ca.gov/centralvalley

ORDER R5-2015-XXXX
NPDES NO. CA0080357

WASTE DISCHARGE REQUIREMENTS FOR THE SIERRA PACIFIC INDUSTRIES QUINCY DIVISION PLUMAS COUNTY

The following Discharger is subject to waste discharge requirements (WDR's) set forth in this Order:

Table 1. Discharger Information

Discharger	Sierra Pacific Industries
Name of Facility	Quincy Division
Facility Address	1538 Lee Road
	Quincy, CA 95971
	Plumas County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Process Wastewater (see Attachment A for definition)	39°56'43.89"N	120°54'46.13"W	Mill Creek
SW-001	Industrial Storm Water (see Attachment A for definition)	39°56'43.89"N	120°54'46.13"W	Mill Creek

Table 3. Administrative Information

This Order was adopted on:	**<Adoption Date>**
This Order shall become effective on:	**<Effective Date>**
This Order shall expire on:	**<Expiration Date>**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDR's in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**[Choose: 180 days prior to the Order expiration date OR <insert date>]**
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Central Valley Region have classified this discharge as follows:	Minor

I, Pamela Creedon, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **[DATE]**.

_____

PAMELA C. CREEDON, Executive Officer

CONTENTS

TABLES

ATTACHMENTS

I. FACILITY INFORMATION

Information describing the Sierra Pacific Industries, Quincy Division (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Central Valley Water Board), finds:

A. Legal Authorities. This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. Background and Rationale for Requirements. The Central Valley Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E and G through H are also incorporated into this Order.

C. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.B, IV.C, and V.B are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

D. Monitoring and Reporting. 40 C.F.R. section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. The Monitoring and Reporting Program is provided in Attachment E.

The technical and monitoring reports in this Order are required in accordance with Water Code section 13267, which states the following in subsection (b)(1), *"In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."*

The Discharger owns and operates the Facility subject to this Order. The monitoring reports required by this Order are necessary to determine compliance with this Order. The need for the monitoring reports is discussed in the Fact Sheet.

E. Notification of Interested Parties. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

F. Consideration of Public Comment. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that Order R5-2008-0090 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Central Valley Water Board from taking enforcement action for past violations of the previous Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of wastewater from the Facility, as the Facility is specifically described in the Fact Sheet in section II.B, in a manner different from that described in this Order is prohibited.

B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).

C. Neither the discharge nor its treatment shall create a nuisance as defined in section 13050 of the Water Code.

D. The discharge of debris (as defined in Attachment A) recognized as originating from the Facility to surface waters or surface water drainage courses is prohibited.

E. The discharge of process wastewater from barking, sawmill, and planing operations, as defined in 40 C.F.R. part 429, is prohibited.

~~E.~~**F. Effective 1 June 2020,** the Discharge of process wastewater (as defined in attachment A) to surface waters is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points 001 and SW-001

1. Final Effluent Limitations – Process Wastewater

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001 for discharges of process wastewater, as defined in Attachment A, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program, Attachment E:

a. The Discharger shall maintain compliance with the effluent limitations specified in Table 4:

Table 4. Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	standard units	--	--	6.0	9.0
Total Suspended Solids	mg/L	--	100	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Priority Pollutants					
Copper, Total Recoverable	µg/L	~~2.2~~2.6	~~4.5~~5.3	--	--
Lead, Total Recoverable	µg/L	~~0.56~~0.74	~~1.1~~1.5	--	--
Zinc, Total Recoverable	µg/L	~~21~~25	~~43~~50	--	--
Non-Conventional Pollutants					
~~Chemical Oxygen Demand~~	~~mg/L~~	~~--~~	~~120~~	~~--~~	~~--~~
Settleable Solids	ml/L	0.1	0.2	--	--

b. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

i. 70%, minimum for any one bioassay; and
ii. 90%, median for any three consecutive bioassays.

c. **Chronic Whole Effluent Toxicity.** There shall be no chronic toxicity in the effluent discharge.

~~d. **Iron, Total Recoverable.** The effluent calendar year annual average total recoverable iron concentration shall not exceed 300 µg/L.~~

2. Final Effluent Limitations – Industrial Storm Water

Upon compliance with the certification requirements in Special Provision VI.C.4.a of this Order, the Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001 for discharges of industrial storm water, as defined in Attachment A, with compliance measured at Monitoring Location SW-001 as described in the Monitoring and Reporting Program, Attachment E:

a. The Discharger shall maintain compliance with the effluent limitations specified in Table 4:

Table 5. Effluent Limitations – Discharge Point SW-001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	standard units	--	--	6.0	9.0
Non-Conventional Pollutants					
Settleable Solids	ml/L	0.1	0.2	--	--

b. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

i. 70%, minimum for any one bioassay; and
ii. 90%, median for any three consecutive bioassays.

3. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharge shall not cause the following in Mill Creek:

1. **Bacteria.** The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than 10 percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL.
2. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
3. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
4. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
5. **Dissolved Oxygen:**
    a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass;
    b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
    c. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
6. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
7. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
8. **pH.** The pH to be depressed below 6.5 nor raised above 8.5.
9. **Pesticides:**
    a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
    b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
    c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by U.S. EPA or the Executive Officer;
    d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 C.F.R. 131.12.);
    e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
    f. Pesticides to be present in concentration in excess of the maximum contaminant levels (MCL's) set forth in CCR, Title 22, division 4, chapter 15; nor
    g. Thiobencarb to be present in excess of 1.0 µg/L.

10. **Radioactivity:**

    a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

    b. Radionuclides to be present in excess of the MCL's specified in Table 64442 of section 64442 and Table 64443 of section 64443 of Title 22 of the California Code of Regulations.

11. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

12. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

13. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.

14. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.

15. **Temperature.** The natural temperature to be increased by more than 5°F. Compliance to be determined based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002.

16. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

17. **Turbidity:**

    a. Shall not exceed 2 Nephelometric Turbidity Units (NTU) where natural turbidity is less than 1 NTU;

    b. Shall not increase more than 1 NTU where natural turbidity is between 1 and 5 NTUs;

    c. Shall not increase more than 20 percent where natural turbidity is between 5 and 50 NTUs;

    d. Shall not increase more than 10 NTU where natural turbidity is between 50 and 100 NTUs; nor

    e. Shall not increase more than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

1. Release of waste constituents from any portion of the Facility shall not cause groundwater to:

    a. Contain waste constituents in concentrations greater than applicable Basin Plan water quality objectives or natural background water quality, whichever is greater.

    b. Exhibit a pH of less than 6.5 or greater than 8.4 units.

    c. Impart taste, odor, chemical constituents, toxicity, or color that creates nuisance or impairs any beneficial use.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.
2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

   a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, division 3, chapter 26.

   b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

      i. violation of any term or condition contained in this Order;

      ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;

      iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and

      iv. a material change in the character, location, or volume of discharge.

      The causes for modification include:

      i. *New regulations.* New regulations have been promulgated under section 405(d) of the CWA, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

      ii. *Land application plans.* When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.

      iii. *Change in sludge use or disposal practice.* Under 40 C.F.R. section 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

      The Central Valley Water Board may review and revise this Order at any time upon application of any affected person or the Central Valley Water Board's own motion.

   c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Central Valley Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

      The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

   d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections

301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or

ii. Controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by U.S. EPA under section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.

h. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.

i. Safeguard to electric power failure:

i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.

ii. Upon written request by the Central Valley Water Board, the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past 5 years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Central Valley Water Board.

iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Central Valley Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Central Valley Water Board that the existing safeguards are inadequate, provide to the Central Valley Water Board and U.S. EPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Central Valley Water Board, become a condition of this Order.

j. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of

such events. This report may be combined with that required under the Central Valley Water Board Standard Provision contained in section VI.A.2.i of this Order.

The technical report shall:

i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.

ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.

iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

The Central Valley Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

k. A publicly owned treatment works whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Central Valley Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Central Valley Water Board may extend the time for submitting the report.

l. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

m. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

n. For publicly owned treatment works, prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a permanent decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Water Code section 1211.)

o. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Central Valley Water Board and a statement. The statement shall comply with the signatory and certification requirements in the federal Standard Provisions (Attachment D, section V.B) and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

p. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

q. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Central Valley Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E.

C. Special Provisions

1. Reopener Provisions

a. Conditions that necessitate a major modification of a permit are described in 40 C.F.R. section 122.62, including, but not limited to:

i. If new or amended applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.

ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.

b. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not

limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

c. **Mercury.** If mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order shall be reopened and an effluent limitation imposed. If the Central Valley Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to reevaluate the need for a mercury offset program for the Discharger.

d. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if the State Water Board revises the SIP's toxicity control provisions that would require the establishment of numeric chronic toxicity effluent limitations, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on the new provisions.

e. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper, lead, and zinc. If the Discharger performs studies to determine site-specific WER's and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

f. **Log Deck Flushing Study.** This Order may be reopened for modification, or revocation and reissuance, as a result of the findings of the Log Deck Flushing Study.

g. **Antidegradation.** Once the results of groundwater monitoring and the Antidegradation Analysis Update required by this Order are submitted, this Order may be reopened to add or modify findings, limits, or other conditions as appropriate.

h. **Title 27 Exemption.** Once the results of groundwater monitoring and the Title 27 Exemption Analysis Update required by this Order are submitted, this Order may be reopened to add or modify findings, limits, or other conditions as appropriate.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Toxicity Evaluation Requirements.** For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity (WET) testing, as specified in MRP section V. Furthermore, this Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the numeric toxicity monitoring trigger specified in section IV.C.2.a.ii, the Discharger is required to either commence accelerated monitoring or a Toxicity Evaluation Study. If the discharge exceeds the numeric toxicity monitoring trigger during the accelerated monitoring established in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE

Work Plan and take actions to mitigate the impact of the discharge and prevent recurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TRE's are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes procedures for conducting accelerated chronic toxicity monitoring and TRE initiation, or for conducting a Toxicity Evaluation Study.

i. **Accelerated Monitoring and TRE or Toxicity Evaluation Study Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall either initiate accelerated monitoring as required in the Accelerated Monitoring Specifications in section IV.C.2.a.iii or conduct a Toxicity Evaluation Study in accordance with section IV.C.2.a.iv. If the Discharger pursues conducting accelerated monitoring, then the Discharger shall initiate a TRE to address effluent toxicity if any WET testing results exceed the numeric toxicity monitoring trigger during accelerated monitoring.

ii. **Numeric Toxicity Monitoring Trigger.** The numeric toxicity monitoring trigger is >1 TUc (where TUc = 100/NOEC). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to begin accelerated monitoring, and initiate a TRE if required, or conduct a Toxicity Evaluation Study.

iii. **Accelerated Monitoring Specifications.** If the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity testing, the Discharger shall initiate accelerated monitoring within 14-days of notification by the laboratory of the exceedance or submit a Toxicity Evaluation Study Workplan. Accelerated monitoring shall consist of four chronic toxicity tests conducted once every two weeks using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:

(a) If the results of four consecutive accelerated monitoring tests do not exceed the monitoring trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.

(b) If the source(s) of the toxicity is easily identified (e.g., temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

(c) If the result of any accelerated toxicity test exceeds the monitoring trigger, the Discharger shall cease accelerated monitoring and begin a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of any test result exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Central Valley Water Board including, at minimum:

(1) Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;

(2) Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and

(3) A schedule for these actions.

The Discharger submitted a TRE Workplan in September 2008; therefore, a new TRE Workplan is not required as part of this Order.

iv. **Toxicity EvaluationStudy.** In lieu of conducting accelerated monitoring and a TRE, the Discharger may choose to perform a site-specific Toxicity Evaluation Study to identify and eliminate chronic toxicity in discharges from the Facility. The Discharger may perform the Toxicity Evaluation Study individually or as part of a coordinated group effort with other dischargers with similar discharges from sawmill log deck operations. If the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity testing, the Discharger shall submit a Toxicity Evaluation Study Work Plan within 14 days of notification by the laboratory of the exceedance for Executive Officer approval. The Toxicity Evaluation Study Work Plan shall include plans and a timeline for identifying toxicants and completing any necessary measures to reduce toxicity in the effluent. As part of the Toxicity Evaluation Study, the Discharger may choose to conduct a TRE and/or a Toxicity Identification Evaluation (TIE). A final report detailing the results of the Toxicity Evaluation Study shall be submitted to the Central Valley Water Board pursuant to the timeline identified in the Work Plan, as approved by the Executive Officer.

b. **Log Deck Flushing Study.** The Discharger shall conduct a Log Deck Flushing Study to determine the minimum volume of flush or amount of rainfall that is required to ensure residual pollutants on the log deck have been sufficiently removed. The Discharger shall submit an updated Log Deck Flushing Study Work Plan that includes a monitoring plan that addresses the constituents of concern (e.g., metals, tannins & lignins, electrical conductivity, chemical oxygen demand, and turbidity) at baseline and subsequent precipitation levels (e.g., sampling conducted for first ½", 2", 3", and 4" of rainfall) and a plan for demonstrating that the Facility has the necessary capacity to capture and maintain all first flush storm water on-site. The updated Log Deck Flushing Study Work Plan shall be submitted to the Central Valley Water Board by **1 October 2015**. The Log Deck Flushing Study shall be conducted during the first wet season following submittal of the updated Log Deck Flushing Study Work Plan, and the results of the study shall be submitted to the Central Valley Water Board **within 6 months** of study completion. If the Discharger is unable to conduct the Log Deck Flushing Study during the first wet season following work plan submittal due to insufficient precipitation levels, the Discharger shall submit a letter to the Central Valley Water Board by the 1st of the following September detailing the reasons for not completing the study, and shall complete the study during the next wet season.

c. **Industrial Storm Water Action Levels and Best Management Practice (BMP) Improvement Evaluation.** If the discharge from Discharge Point SW-001 exceeds any industrial storm water action level in Table 6 or if any receiving water limitation in section V.A of this Order is exceeded, the Discharger must conduct a BMP Improvement Evaluation and implement, if necessary, BMP improvements to reduce the industrial storm water pollutant concentrations below the action level and/or eliminate the receiving water violation. The BMP Improvement Evaluation and

proposed BMP improvements must be submitted to the Central Valley Water Board **within 60 days** of the exceedance or violation date. The BMP improvement(s) must be implemented as soon as practicable thereafter. The Facility Industrial Storm Water Pollution Prevention Plan (SWPPP) shall be updated in response to any implemented BMP improvements, as appropriate.

This Order includes the following industrial storm water action levels:

Table 6. Industrial Storm Water Action Levels

Parameter	Units		Action Level
		~~Annual Average~~[2]	Maximum Daily
Total Suspended Solids	mg/L	~~--~~	100
Copper, Total Recoverable	µg/L	~~--~~	6.6
Zinc, Total Recoverable	µg/L	~~--~~	61
Chemical Oxygen Demand	mg/L	~~--~~	120
~~Iron, Total Recoverable~~	~~µg/L~~	~~1,000~~	~~--~~
Tannins and Lignins	mg/L	~~--~~	30
Chronic Toxicity[1]	TUc	~~--~~	1

[1] BMP Improvement Evaluation and proposed BMP improvements must be submitted in accordance with section VI.C.2.a.

~~[2] Annual average shall be 1 July through 30 June.~~

The action levels are not effluent limitations on the industrial storm water discharge. The action levels are the pollutant concentrations above which the Central Valley Water Board has determined represent a level of concern and require further evaluation of the Discharger's SWPPP as it relates to controlling the discharge of the subject pollutant from the Facility.

Exceedance of an action level requires the Discharger to conduct a BMP Improvement Plan in accordance with this provision. If the action level continues to be exceeded after implementation of initial BMP improvements, the Discharger shall demonstrate that no further pollutant reduction is technologically available and economically achievable in light of best industry practice to meet the action level.

d. **Groundwater Water Quality Characterization.** Based on the groundwater monitoring results from 2010 to 2012, the concentrations of certain constituents are higher than background concentrations (Figures F-1 through F-4). Therefore, the discharger shall update the Groundwater Water Quality Characterization Study submitted in March 2009 and re-evaluate and characterize natural background quality of monitored constituents in a technical report, to be submitted by **1 February 2017**. For each groundwater monitoring parameter identified in the Monitoring and Reporting Program, the report shall present a summary of monitoring data, calculation of the concentration in background monitoring wells, and a comparison of background groundwater quality to that in wells used to monitor the facility. Determination of background quality shall be made using the methods described in Title 27 California Code of Regulations Section 20415(e)(10), and shall be based on data from at least twelve consecutive quarterly (or more frequent) groundwater monitoring events. For each monitoring parameter/constituent, the report shall compare measured concentrations in the compliance monitoring wells with the calculated background concentration.

In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be

performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. The technical report shall be prepared by or under the direction of appropriately qualified professional(s) and shall bear the professional's signature and stamp.

e. **Antidegradation Analysis Update. Within 42 months** of the effective date of this Order, the Discharger shall submit an Antidegradation Analysis Update. The Antidegradation Analysis Update shall address existing discharges at the Facility and use information obtained from the groundwater monitoring and characterization required in section VI.C.2.d in addition to results of the land discharge and groundwater monitoring to date. The update shall explain whether or not groundwater degradation as a result of Facility operations is consistent with State Water Board Resolution No. 68-16. If degradation greater than allowed by State Water Board Resolution No. 68-16, the Discharger **shall include a workplan** for Facility improvements (with an implementation schedule) sufficient to limit degradation for compliance with the antidegradation policy. Determination of background groundwater quality for use in the analysis shall be made using the methods described in Title 27 California Code of Regulations Section 20415(e)(10) or other method approved by the Executive Officer. After reviewing the Antidegradation Analysis Update, the Central Valley Water Board may reopen this Order as described in section VI.C.1 of this Order. The Central Valley Water Board may find that the existing discharge is or is not consistent with the State and Federal antidegradation policies, that additional information is necessary, or that Facility modifications sufficient to bring the discharge into compliance with antidegradation policies is required.

f. **Title 27 Exemption Analysis Update. Within 42 months** of the effective date of this Order, the Discharger shall submit a Title 27 Exemption Analysis Update (Title 27 Update). The Title 27 Update shall address existing discharges at the Facility and use the information and determinations presented in the technical reports required by section VI.C.2.d and section VI.C.2.e. in addition to results of the land discharge and groundwater monitoring to date to explain whether or not the conclusions reached in the original Title 27 Exemption Analysis included in the Report of Waste Discharge (ROWD) are valid. After reviewing the Title 27 Update, the Central Valley Water Board may reopen this Order as described in section VI.C.1 of this Order. The Central Valley Water Board may find that a Title 27 exemption is or is not appropriate, that additional information is necessary, or that Facility modifications sufficient to bring the discharge into compliance with the Basin Plan is required.

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** The Discharger shall update and continue to implement a salinity evaluation and minimization plan to identify and address sources of salinity from the Facility. The updated plan shall be completed and submitted to the Central Valley Water Board **within 9 months** of the effective date of this Order. The Discharger shall provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to Mill Creek. The annual reports shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, section X.D.1).

b. **Storm Water Pollution Prevention Plan (SWPPP)**

i. This Order requires the Discharger to develop and implement a site-specific SWPPP for the Facility. The SWPPP shall be submitted to the Central Valley

Water Board by **1 October 2015**. The SWPPP must include the information needed to demonstrate compliance with all requirements of this Order and shall contain at a minimum, the following elements:

(a) Facility name and contact information;

(b) Site map;

(c) List of significant materials;

(d) Description of potential pollution sources;

(e) Assessment of potential pollutant sources;

(f) Minimum BMP's;

(g) Advanced BMP's, if applicable;

(h) Monitoring Implementation Plan; and

(i) Date that SWPPP was initially prepared and the date of each SWPPP amendment, if applicable.

ii. **BMP Summary Table.** The Discharger shall prepare a table, to be included in the SWPPP, summarizing each identified area of industrial activity, the associated industrial pollutant sources, the industrial pollutants, and the BMP's being implemented.

iii. **SWPPP Revisions.** The Discharger shall amend the SWPPP whenever there is a change in construction, site operation, or maintenance, which may affect the discharge of significant quantities of pollutants to surface water or groundwater. The SWPPP must also be amended if there are violations of this permit, or the Discharger has not achieved the general objectives of controlling pollutants in the storm water discharges. If the SWPPP has been significantly revised, the revised SWPPP shall be submitted to the Central Valley Water Board for review.

iv. A copy of the SWPPP shall be maintained at the facility.

4. Construction, Operation and Maintenance Specifications

a. **Elimination of Process Wastewater Discharges to Surface Water**. To demonstrate adequate progress in the elimination of process wastewater discharges to surface water the Discharger shall complete the following tasks:

i. *Storm Water Conveyance*. The Discharger shall complete installation of a conveyance system (e.g., piping and pumping facilities) to deliver collected industrial storm water to the new storm water irrigation pond by **1 February 2017**. The Discharger shall include a demonstration of completion of these facilities in the annual progress report due **1 February 2017**.

ii. *Water Balance*. The Discharger shall conduct an evaluation of the Facility's ability to store all process wastewater in order to eliminate surface water discharges. This evaluation shall include a water balance that considers reasonable-worst case precipitation conditions, and shall be submitted by **1 June 2019 or within 6 months** of submittal of the Log Deck Flushing Study required in Section VI.C.2.b, whichever is sooner.

~~v.~~iii. *Progress Reports*. The Discharger shall submit progress reports on **1 February, annually.** The annual progress reports shall detail the steps that have been implemented towards eliminating the process wastewater

discharges to surface water, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to eliminate the discharge by 1 June 2020.

~~c.~~b. **Storm Water Certification.** Prior to discharging industrial storm water from the 53.6-acre log deck area at Discharge Point 001, the Discharger must certify that:

i. The total rainfall after log deck sprinkling ceased is at least 2-inches, and

ii. All process wastewater has been removed from Ponds 1 and 2.

Certification shall include submittal of a letter to the Central Valley Water Board certifying that items i and ii, above, have been met.

~~d.~~c. **Pond Operating Requirements**

Unless otherwise specified, the following requirements are applicable to Pond 1, Pond 2, and the Retention Pond.

i. No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes a violation of the Groundwater Limitations of this Order.

ii. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.

iii. All conveyance, treatment, storage, and disposal systems shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

iv. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.

v. Ponds shall be managed to prevent breeding of mosquitoes. In particular,

vi. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.

vii. Weeds shall be minimized.

viii. Dead algae, vegetation, and debris shall not accumulate on the water surface.

ix. Freeboard shall never be less than two feet from October 1 through April 1 and never less than one foot for the remainder of the year (measured vertically to the lowest point of overflow.

x. Objectionable odors shall not be perceivable beyond the limits of the Facility property at an intensity that creates or threatens to create nuisance conditions.

xi. As a means of discerning compliance with Pond Operating Requirement c.vii, the dissolved oxygen (DO) content in the upper one foot of any treatment or storage pond shall not be less than 1.0 mg/L for three consecutive weekly sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Central Valley Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.

~~e.~~d. The discharge shall not cause degradation of any water supply.

~~f.~~e. Management of wood fuel stockpiles and ash stockpiles shall not adversely affect groundwater quality.

~~g.~~f. Discharge to septic tank leachfield system shall remain underground all the times.

5. Special Provisions for Municipal Facilities (POTW's Only) – Not Applicable

6. Other Special Provisions

a. **Sludge, Wood Waste, and/or Ash Management**

i. Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer and consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1, Section 20005, et seq.

ii. **Ash Management Plan**. **Within 90 days of the permit effective date**, the Discharger shall submit an ash management plan to the Central Valley Water Board. The plan shall describe at a minimum:

(a) Sources and amount of ash generated annually.

(b) Locations(s) of on-site storage and description of containment area.

(c) Plans for ultimate disposal. For landfill disposal, include the present classification of the landfill and the name and location of the landfill.

iii. Any proposed change in sludge or ash use or disposal practice shall be reported to the Executive Officer at least 30 days in advance of the change.

iv. Non-hazardous fly ash removed from the facility shall be:

(a) Beneficially reused, such as for soil amendment; or

(b) Disposed in a dedicated unit consistent with Title 27, Section 20200(b); or

(c) Disposed in a Class III landfill consistent with Title 27, Section 20220(d).

Any other use shall require approval by the Executive Officer.

v. This Order does not authorize storage, transportation, or disposal of ash or other wastes characterized as hazardous wastes. Appropriate separate regulatory coverage must be secured for such activities.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

A. Priority Pollutant Effluent Limitations. Compliance with effluent limitations for priority pollutants shall be determined in accordance with Section 2.4.5 of the SIP, as follows:

1. Dischargers shall be deemed out of compliance with an effluent limitation, if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

2. Dischargers shall be required to conduct a Pollutant Minimization Program (PMP) in accordance with section 2.4.5.1 of the SIP when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and either:

a. A sample result is reported as detected, but not quantified (DNQ) and the effluent limitation is less than the RL; or

b. A sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL).

3. When determining compliance with an average monthly effluent limitation (AMEL) and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

4. If a sample result, or the arithmetic mean or median of multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a PMP (as described in section 2.4.5.1), the discharger shall not be deemed out of compliance.

B. Chronic Whole Effluent Toxicity Effluent Limitation (Section IV.A.1.c). Compliance with the accelerated monitoring and TRE provisions of Provision VI.C.2.a shall constitute compliance with the effluent limitation.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)
Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMP's)
Those control measures taken to mitigate changes to both quantity and quality of runoff caused through changes to land use. Specifically, those measures that are required to reduce or prevent pollutants in industrial storm water discharges in compliance with BAT/BCT.

Bioaccumulative
Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic
Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)
CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Debris
Debris is defined as woody material such as bark, twigs, branches, heartwood or sapwood that will not pass through a 2.54 cm (1.0 in) diameter round opening and is present in the discharge from a wet storage facility.

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit
Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA)
ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays
Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration
The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters
All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation
The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation
The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median
The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the n/2 and n/2+1).

Method Detection Limit (MDL)
MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)
ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone
Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)
Sample results which are less than the laboratory's MDL.

Ocean Waters
The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent Pollutants
Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Central Valley Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or Central Valley Water Board.

Process Wastewater
Process wastewater shall include log deck sprinkling water and "first flush" industrial storm water from the log deck. The "first flush" is defined as the first 2 inches of rainfall from the 53.6-acre log deck area after the time log deck sprinkling with pond water has ceased. The "first flush" collection may occur more than once in a wet season if the Discharger intermittently sprinkles logs with pond water during the wet season. Attachment C includes a site plan that identifies the 53.6-acre log deck industrial storm water area.

Satellite Collection System
The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water
Any water designated as municipal or domestic supply (MUN) in a Central Valley Water Board Basin Plan.

Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

Storm Water
Storm water runoff from the site orginates from a 53.6 acre log deck area (Industrial Storm Water) and from a 36.4-acre general industrial stormwater area (General Industrial Storm Water). The site plan in Attachment C delineates these areas and is defined as follows:

Log Deck Storm Water. Log deck storm water is regulated by this Order and is defined as storm water runoff from the 53.6 acre log deck area after the "first flush" storm water is collected. The "first flush" is defined as the first 2 inches of rainfall from the log deck area after the time log deck sprinkling with pond water has ceased. The "first flush" collection may occur more than once in a wet season if the Discharger intermittently sprinkles logs with pond water during the wet season.

General Industrial Storm Water. This Order does <u>not</u> regulate discharges of general industrial storm water from the 36.4-acre general industrial stormwater area. All storm waterrunoff from the 36.4-acre general industrial stormwater area is directed to Pond 4 and discharged to Mill Creek under the State Water Resources Control Board (State Water Board) Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for

Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities (General Industrial Storm Water Permit).

Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – MAP

Figure B-1. Map of Facility

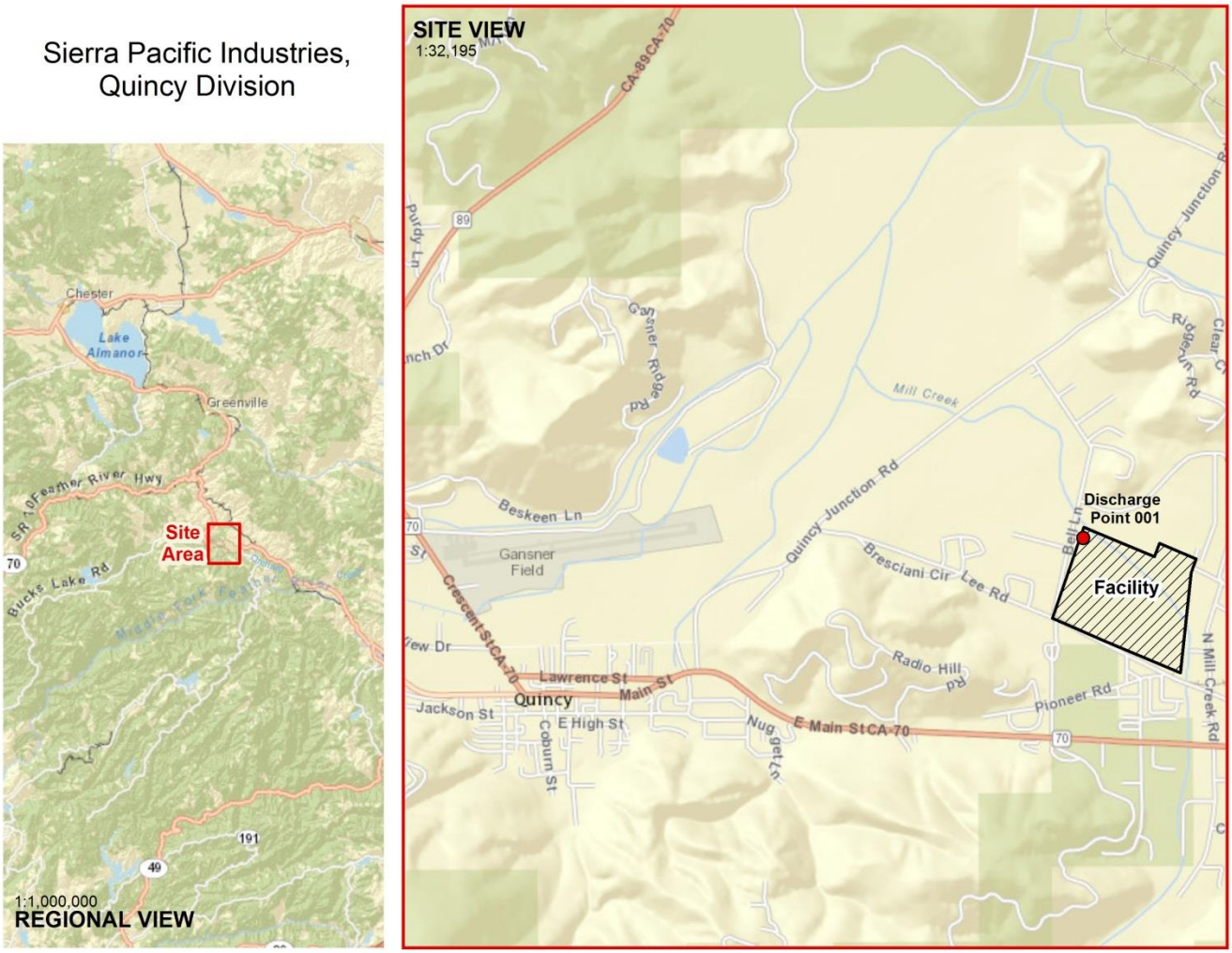
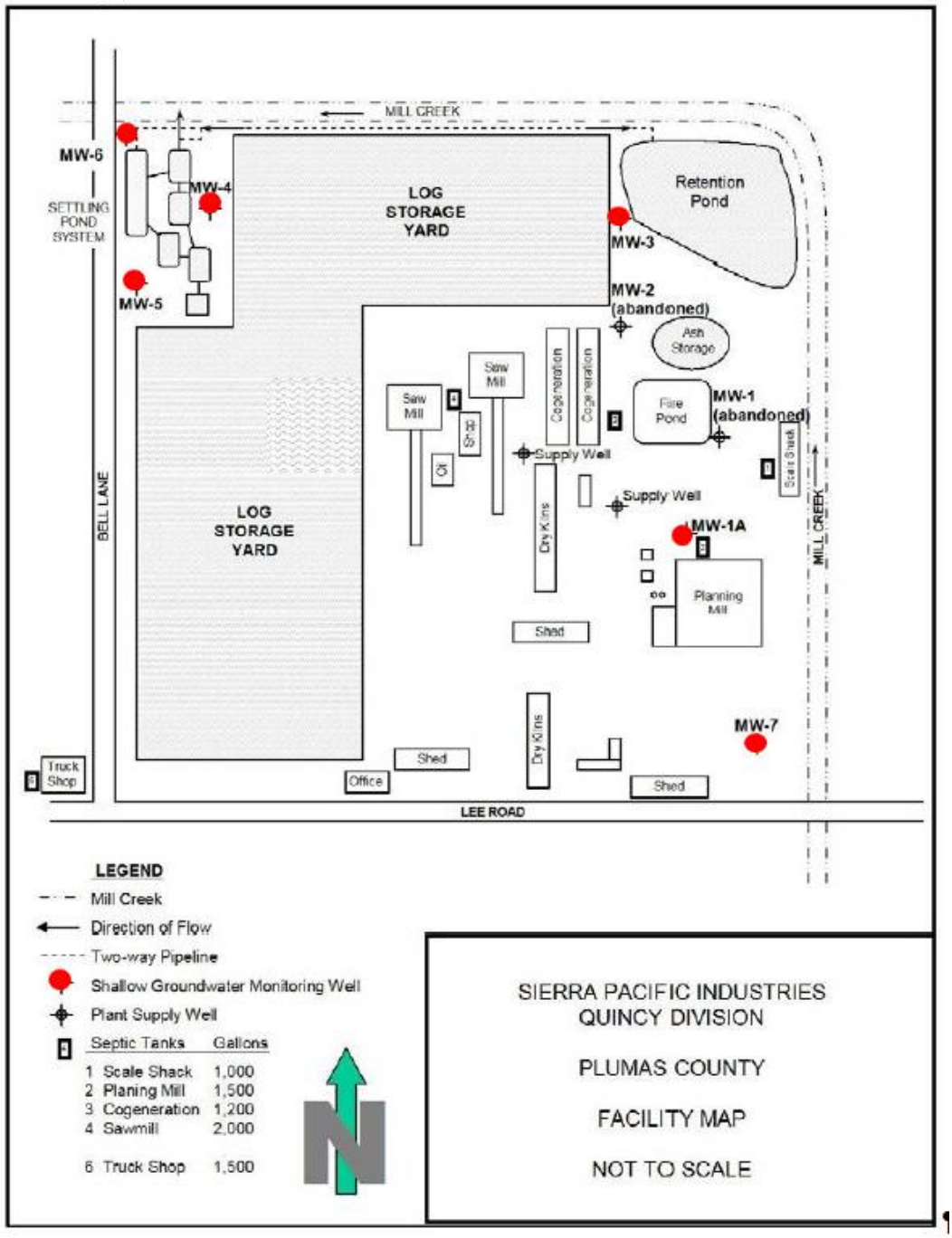
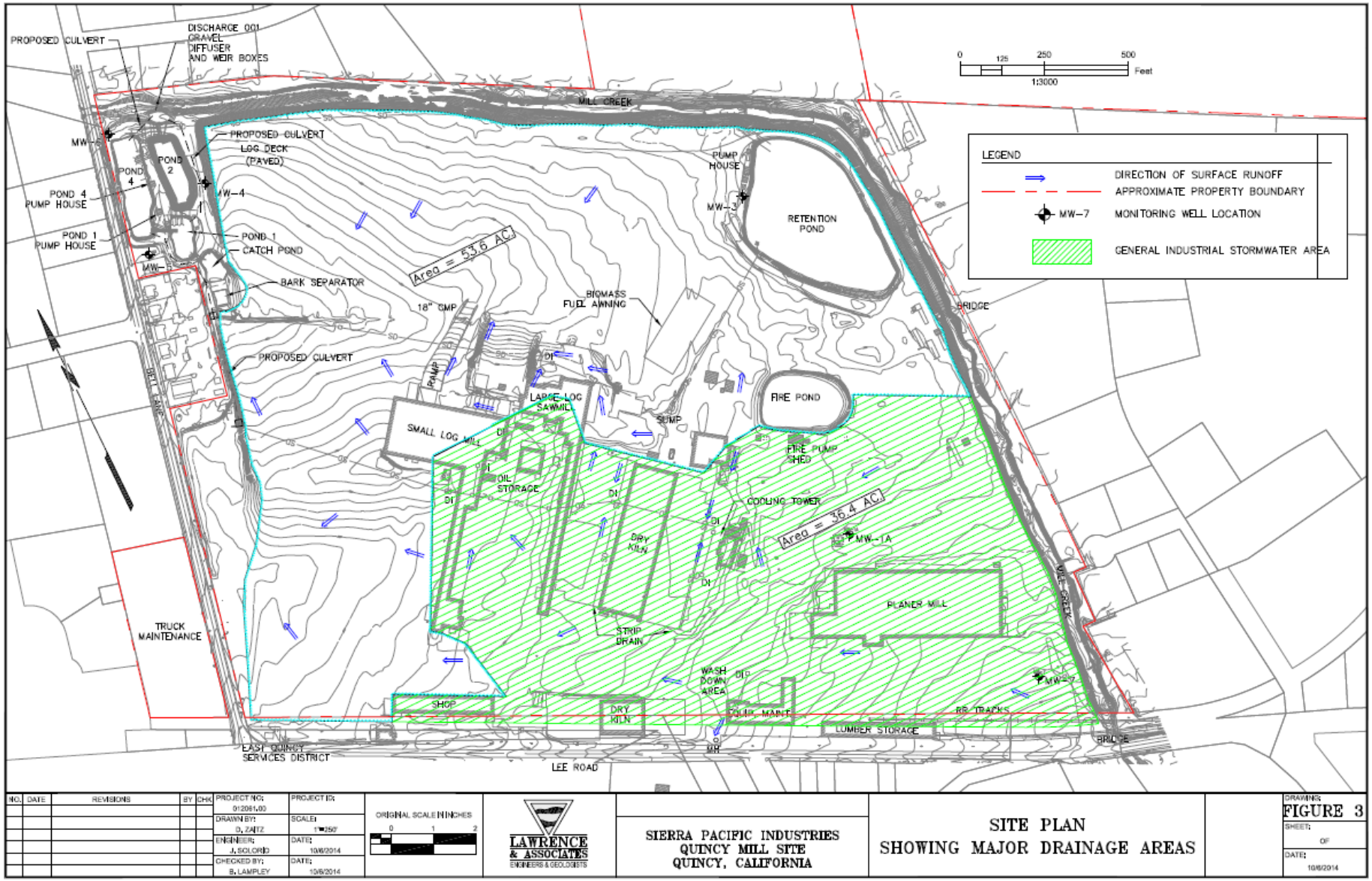


Figure B-2. Map of Groundwater Monitoring Wells



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Central Valley Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, § 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, § 13267, 13383); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Central Valley Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

   c. The Discharger submitted notice to the Central Valley Water Boardas required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Central Valley Water Board may approve an anticipated bypass, after considering its adverse effects, if the Central Valley Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Central Valley Water Board. The Central Valley Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. In the case of pollutants for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants. (40 C.F.R. § 122.41(j)(4); 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Central Valley Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Central Valley Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Central Valley Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Central Valley Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Central Valley Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

3. All reports required by this Order and other information requested by the Central Valley Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

   c. The written authorization is submitted to the Central Valley Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Central Valley Water Board

and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Valley Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Central Valley Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Central Valley Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Central Valley Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Central Valley Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order’s requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Central Valley Water Board**,** State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Central Valley Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(1)):
    a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));
    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));
    c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or
    d. The level established by the Central Valley Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels" (40 C.F.R. § 122.42(a)(2)):
    a. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));
    b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));
    c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or
    d. The level established by the Central Valley Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Contents

Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of the Central Valley Water Board.

B. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.

C. Chemical, bacteriological, and bioassay analyses of any material required by this Order shall be conducted by a laboratory certified for such analyses by the State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW; formerly the Department of Public Health). Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Central Valley Water Board. In the event a certified laboratory is not available to the Discharger for any onsite field measurements such as pH, dissolved oxygen (DO), turbidity, temperature, and residual chlorine, such analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program for any onsite field measurements such as pH, DO, turbidity, temperature, and residual chlorine must be kept onsite in the treatment facility laboratory and shall be available for inspection by Central Valley Water Board staff. The Discharger must demonstrate sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform these field measurements. The Quality Assurance-Quality Control Program must conform to U.S. EPA guidelines or to procedures approved by the Central Valley Water Board.

D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

F. Laboratories analyzing monitoring samples shall be certified by DDW, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

G. The Discharger shall file with the Central Valley Water Board technical reports on self-monitoring performed according to the detailed specifications contained in this Monitoring and Reporting Program.

H. The results of all monitoring required by this Order shall be reported to the Central Valley Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	A location where a representative sample of process wastewater (as defined in Attachment A) from Pond 2 can be obtained prior to commingling with general industrial storm water discharges from Pond 4 in the gravel diffuser and discharge to the receiving water. Latitude: 39° 56' 34.8" N Longitude: 120° 54' 24.38" W
SW-001	SW-001	A location where a representative sample of industrial storm water from Pond 2 can be obtained prior to commingling with general industrial storm water discharges from Pond 4 in the gravel diffuser and discharge to the receiving water. Latitude: 39° 56' 34.8" N Longitude: 120° 54' 24.38" W
--	RSW-001	In Mill Creek, 860 feet upstream from Discharge Point 001.
--	RSW-002	In Mill Creek, 550 feet upstream from Discharge Point 001.
	PND-001	Pond 1, Process water and industrial storm water settling pond (see site plan in Attachment C)
	PND-002	Pond 2, Process water and industrial storm water settling pond (see site plan in Attachment C)
	PND-005	Retention Basin, Process water (see site plan in Attachment C)
	MW-1A and MW-7	Background Monitoring Wells (see Attachment B, Figure B-2)
	MW-3, MW-4, MW-5, and MW-6	Downgradient Monitoring Wells (see Attachment B, Figure B-2)

The North latitude and West longitude information in Table E-1 are approximate for administrative purposes.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor discharges of process wastewater, as defined in Attachment A, at Monitoring Location EFF-001 as follows when discharges to Mill Creek occur. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-2. Effluent Monitoring – Monitoring Location EFF-001 (Process Wastewater)

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
Flow	MGD	Calculate	1/Day	--
Conventional Pollutants				
Oil and Grease	mg/L	Grab	2/Year	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
pH	standard units	Grab	1/Week[3]	[2]
Total Suspended Solids	mg/L	Grab	1/Month[6]	[2]
Priority Pollutants				
Copper, Total Recoverable	µg/L	Grab	1/Month[6]	[2,4]
Lead, Total Recoverable	µg/L	Grab	1/Month[6]	[2,4]
Zinc, Total Recoverable	µg/L	Grab	1/Month[6]	[2,4]
Priority Pollutants and Other Consituents of Concern	See Section IX.D	See Section IX.D	See Section IX.D	[2,4]
Non-Conventional Pollutants				
Chemical Oxygen Demand	mg/L	Grab	1/Month[6]	[2]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week	[2]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	2/Year[5]	[2]
Iron, Total Recoverable	µg/L	Grab	1/Month[6]	[2]
Settleable Solids	ml/L	Grab	1/Week	[2]
Tannins and Lignins	mg/L	Grab	1/Month[6]	[2]
Turbidity	NTU	Grab	1/Week	[2]

[1] Samples shall be collected during the first 24 hours from the first discharge after the dry season and according to the sampling frequency in Table E-2 thereafter. If the discharge is intermittent rather than continuous, then the first day of each intermittent discharge shall be monitored, but not more than twice the frequency noted. First discharge event sampling may be limited to weekdays due to staffing and laboratory holding time needs and may exceed the 24-hour sampling requirement at times. First discharge events occurring on the weekend must be sampled no later than the following business day (e.g., Monday).

[2] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

[3] A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

[4] For priority pollutant constituents the reporting level shall be consistent with Sections 2.4.2 and 2.4.3 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (See Attachment E, section IX.D).

[5] Hardness samples shall be collected concurrently with metals samples.

[6] All parameters with minimum sampling frequency of 1/month to be sampled concurrently and sampled concurrent with those parameters with a minimum sampling frequency of 1/week one time per month.

B. Monitoring Location SW-001

1. Upon compliance with the certification requirements in Special Provision VI.C.4.a of this Order, the Discharger shall monitor discharges of storm water, as defined in Attachment A, at Monitoring Location SW-001 as follows when discharges to Mill Creek occur. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-3. Effluent Monitoring – Monitoring Location SW-001 (Storm Water)

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
Flow	MGD	Calculate	1/Day	--
Conventional Pollutants				
Oil and Grease	mg/L	Grab	2/Year	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
pH	standard units	Grab	1/Week[3]	[2]
Total Suspended Solids	mg/L	Grab	1/Month	[2]
Priority Pollutants				
Copper, Total Recoverable	µg/L	Grab	1/Month	[2,4]
~~Lead, Total Recoverable~~	~~µg/L~~	~~Grab~~	~~1/Month~~	~~[2,4]~~
Zinc, Total Recoverable	µg/L	Grab	1/Month	[2,4]
Priority Pollutants and Other Consituents of Concern	See Section IX.D	See Section IX.D	See Section IX.D	[2,4]
Non-Conventional Pollutants				
Chemical Oxygen Demand	mg/L	Grab	1/Month	[2]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week	[2]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	2/Year[5]	[2]
Iron, Total Recoverable	µg/L	Grab	1/Month	[2]
Settleable Solids	ml/L	Grab	1/Week	[2]
Tannins and Lignins	mg/L	Grab	1/Month	[2]
Turbidity	NTU	Grab	1/Week	[2]

[1] Samples shall be collected during the first 24 hours from the first discharge after the dry season and according to the sampling frequency in Table E-3 thereafter. If the discharge is intermittent rather than continuous, then the first day of each intermittent discharge shall be monitored, but not more than twice the frequency noted. First discharge event sampling may be limited to weekdays due to staffing and laboratory holding time needs and may exceed the 24-hour sampling requirement at times. First discharge events occurring on the weekend must be sampled no later than the following business day (e.g., Monday).

[2] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

[3] A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

[4] For priority pollutant constituents the reporting level shall be consistent with Sections 2.4.2 and 2.4.3 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (See Attachment E, section IX.D).

[5] Hardness samples shall be collected concurrently with metals samples.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing. The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

1. *Monitoring Frequency* – The Discharger shall perform semi-annual acute toxicity testing.
2. *Sample Types* – The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Locations EFF-001 and SW-001.
3. *Test Species* – Test species shall be rainbow trout (*Oncorhynchus mykiss*).
4. *Methods* – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature, total residual chlorine, and pH shall be recorded at the

time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.

5. *Test Failure* – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

B. Chronic Toxicity Testing. The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:

1. *Monitoring Frequency* – The Discharger shall perform annual three species chronic toxicity testing.

2. *Sample Types* – The Discharger may use static renewal or static non-renewal testing. Effluent samples shall grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001 and SW-001. The receiving water control shall be a grab sample obtained from Monitoring Location RSW-001, as identified in this Monitoring and Reporting Program.

3. *Sample Volumes* – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.

4. *Test Species* – Chronic toxicity testing measures sublethal (e.g., reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:

   a. The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);

   b. The fathead minnow, *Pimephales promelas* (larval survival and growth test); and

   c. The green alga, *Selenastrum capricornutum* (growth test).

5. Methods – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002.

6. Reference Toxicant – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.

7. *Dilutions* – For routine and accelerated chronic toxicity monitoring, it is not necessary to perform the test using a dilution series. The test may be performed using 100% effluent and one control. For TRE monitoring, the chronic toxicity testing shall be performed using the dilution series identified in the table below, unless an alternative dilution series is detailed in the submitted TRE Action Plan. A receiving water control or laboratory water control may be used as the diluent.

Table E-4. Chronic Toxicity Testing Dilution Series

Sample	Dilutions[1] (%)					Control
	100	75	50	25	12.5	
% Effluent	100	75	50	25	12.5	0
% Control Water	0	25	50	75	87.5	100

[1] Receiving water control or laboratory water control may be used as the diluent.

8. *Test Failure* – The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:

   a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or

   b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in Table 6 on page 52 of the Method Manual. (A retest is only required in this case if the test results do not exceed the monitoring trigger specified in the Special Provision at section VI.C.2.a.ii of the Order.)

C. WET Testing Notification Requirements. The Discharger shall notify the Central Valley Water Board within 24-hours after the receipt of test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.

D. WET Testing Reporting Requirements. All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Central Valley Water Board with the monthly self monitoring report, and shall contain, at minimum:

   a. The results expressed in TUc, measured as 100/NOEC, and also measured as 100/LC50, 100/EC25, 100/IC25, and 100/IC50, as appropriate.

   b. The statistical methods used to calculate endpoints;

   c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);

   d. The dates of sample collection and initiation of each toxicity test; and

   e. The results compared to the numeric toxicity monitoring trigger.

   Additionally, the monthly self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or Toxicity Reduction Evaluation (TRE).

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.

3. **TRE or Toxicity Evaluation Study Reporting.** Reports for TRE's or Toxicity Evaluation Studies shall be submitted in accordance with the schedule contained in the Discharger's approved workplan, or as amended by the Discharger's TRE Action Plan.

4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes:

   a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.

b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.

c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Monitoring Locations PND-001, PND-002, and PND-005

1. The Discharger shall monitor the process wastewater at PND-001 (Pond1), PND-002 (Pond 2)) and PND-005 (Retention Pond) as follows:

Table E-5. Land Discharge Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Freeboard	Feet, inches	Observation	1/Week	--
Odors	--	Observation	1/Week	--
Settled Matter Depth	Feet, inches	Visual	1/Year prior to rainy season	--
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	[1]
pH	standard units	Grab	1/Quarter	[1]
Total Dissolved Solids	mg/L	Grab	1/Quarter	[1]
pH	standard units	Grab	1/Week	[1]
Dissolved Oxygen	mg/L	Grab	1/Week	[1]
Arsenic, Dissolved	µg/L	Grab	1/Quarter	[1]
Manganese, Dissolved	µg/L	Grab	1/Quarter	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Locations RSW-001 and RSW-002

1. The Discharger shall monitor Mill Creek during periods of discharge of Process Wastewater or Storm Water (as defined in Attachment A) at Monitoring Locations RSW-001 and RSW-002 as follows.

Table E-6. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
Flow	cfs	Estimate	1/~~Day~~Week	--
Conventional Pollutants				
pH	standard units	Grab	1/Week	[2]
Priority Pollutants				
Copper, Dissolved	µg/L	Grab	1/Month	[2,4]
Lead, Dissolved	µg/L	Grab	1/Month	[2,4]
Zinc, Dissolved	µg/L	Grab	1/Month	[2,4]

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
Priority Pollutants and Other Consituents of Concern	See Section IX.D	See Section IX.D	See Section IX.D[3]	[2,4]
Non-Conventional Pollutants				
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week	[1]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Month[6] ~~2/Year~~	[1]
Iron, Dissolved	µg/L	Grab	1/Month	[1]
Turbidity	NTU	Grab[5]	1/Week	[1]

[1] Samples shall be collected during the first 24 hours from the first discharge after the dry season during daytime business hours and according to the sampling frequency in Table E-5 thereafter. When possible, receiving water sampling shall be concurrent with effluent (storm water) sampling, when applicable..

[2] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

[3] Monitoring for priority pollutants and other constituents of concern shall be conducted at Monitoring Location RSW-001 only.

[4] For priority pollutant constituents the reporting level shall be consistent with Sections 2.4.2 and 2.4.3 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (See Attachment E, section IX.D).

[5] Turbidity shall be determined by either individual samples or by samples taken over an averaging period. For averaging periods, a minimum of four samples per day shall be collected at each monitoring location for a period of up to 4 days during discharge. Samples collected for averaging must e spaced at least 3 hours apart.

[6] Hardness samples shall be collected concurrently with metals samples.

2. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Monitoring Locations RSW-001 and RSW-002. Attention shall be given to the presence or absence of:

   a. Floating or suspended matter;
   b. Discoloration;
   c. Bottom deposits;
   d. Aquatic life;
   e. Visible films, sheens, or coatings;
   f. Fungi, slimes, or objectionable growths; and
   g. Potential nuisance conditions.

   Notes on receiving water conditions shall be summarized in the monitoring report.

B. Monitoring Locations MW-1A, MW-3, MW-4, MW-5, MW-6, and MW-7

1. Prior to construction and/or beginning a sampling program of any new groundwater monitoring wells, the Discharger shall submit plans and specifications to the Central Valley Water Board for approval. Once installed, all new wells shall be added to the monitoring network (which currently consists of Monitoring Well Nos. MW-1A, MW-3, MW-4, MW-5, MW-6, and MW-7) and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved EPA methods. Water table elevations shall be calculated to determine groundwater gradient and direction of flow.

2. The methods of analysis and the detection limits used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., “trace” or “ND”) in data from background monitoring points for that medium, the analytical

method having the lowest method detection limit (MDL) shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.

3. Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater monitoring at MW-1A, MW-3, MW-4, MW-5, MW-6, and MW-7, and any new groundwater monitoring wells shall include, at a minimum, the following:

Table E-7. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency[4]	Required Analytical Test Method
Depth to Groundwater	±0.01 feet	Measurement	1/Quarter	--
Groundwater Elevation[1]	±0.01 feet	Calculated	1/Quarter	--
Gradient	feet/feet	Calculated	1/Quarter	--
Gradient Direction	degrees	Calculated	1/Quarter	--
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	[2]
Sodium	mg/L	Grab	1/Quarter	[2]
Total Dissolved Solids	mg/L	Grab	1/Quarter	[2]
pH	standard units	Grab	1/Quarter	[2]
Arsenic,Dissolved[3]	µg/L	Grab	1/Quarter	[2]
Manganese, Dissolved[3]	µg/L	Grab	1/Quarter	[2]
Iron, Dissolved[3]	µg/L	Grab	1/Quarter	[2]
Tannins & Lignins	mg/L	Grab	1/Quarter	[2]

[1] Groundwater elevation shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well. The groundwater elevation shall be used to calculate the direction and gradient of groundwater flow, which must be reported.

[2] Analytical procedures shall comply with the methods and holding times specified in the following: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater (EPA); Test Methods for Evaluating Solid Waste (EPA); Methods for Chemical Analysis of Water and Wastes (EPA); Methods for Determination of Inorganic Substances in Environmental Samples (EPA); Standard Methods for the Examination of Water and Wastewater (APHA/AWWA/WEF); and Soil, Plant and Water Reference Methods for the Western Region (WREP 125). Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the California Department of Public Health's Environmental Laboratory Accreditation Program. The Discharger may propose alternative methods for approval by the Executive Officer. Where technically feasible, laboratory reporting limits shall be lower than the applicable water quality objectives for the constituents to be analyzed.

[3] Samples shall be filtered with a 0.45-micron filter prior to sample preservation.

[4] After 12 consecutive quarterly sampling events, monitoring may be reduced from quarterly to annually upon Excecutive Officer approval.

IX. OTHER MONITORING REQUIREMENTS

A. Precipitation Monitoring

1. Precipitation information shall be collected as follows and reported in the monthly SMR:

Table E-8. Precipitation Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Precipitation	inches	Gauge	1/Day	--

B. Ash and Cooling Tower Solids Monitoring

Table E-9. Ash Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Feed stock composition	Dry-tons[7]	Continuous	Monthly	---
Ash Volume Generated	Dry-tons[7]	Continuous	Monthly	--
Ash Volume Stored at Facility	Dry-tons[7]	Continuous	Monthly	--
Ash Volume Removed from Facility	Dry-tons[7]	Continuous	Monthly	--
Ash Liming Capacity	Equiv % $CaCO_3$	Composite	2/Year	UC Davis Method 440 or AOAC 955.01[6]
Ash Total Phosphorous	mg/kg	Composite	2/Year	[1]
Moisture Content	% Moisture	Composite	2/Year	[1]
pH	standard units	Composite	2/Year	[1]
CAM 17 Metals[2]	mg/kg	Composite	2/Year	[1,3]
TCDD-Equivalents[4]	pg/g	Composite	1/Year[5]	EPA Method 1613

[1] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

[2] California Administrative Manual (i.e. CAM) metals:: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc.

[3] In accordance with CCR Title 22 testing procedures

[4] Dioxin equivalents, also known as the TEQ, is a calculated value that reflects the combined effect of dioxin and furan compounds (cogeners). Results for dioxin TEQ shall include all congeners.

[5] Upon Executive Officer approval, sampling frequency may be reduced after two consecutive years of data has been submitted.

[6] A&L Western Agricultural Laboratories'' Neutralizing value of liming materials (or percent calcium carbonate equivalency-CCE).

[7] Units may be reported uniformly in volume or weight measurement.

2. The Discharger shall record on a monthly basis the following information about wood ash removed from the Facility and submit in an annual ~~the monthly~~ SMR **no later than 1 April of each year**:

   a. Final end user name and disposal location or soil amendment application area ~~(i.e., name and address)~~ address (except as described in item c. below for intermediate producers), and

   b. volume and/or weight of ash for each location/area, and.

   ~~b.~~c. the name, address, and volume and/or weight of ash sold or supplied to an intermediate producer for use in the manufacture of commercial soil amendment products. (Note: Final application area information for end users purchasing commercial soil amendment products is not required.)

3. The Discharger shall record the following information on cooling tower sludge. By 1 February of each year, the information shall be summarized and submitted in a report:

   a. Annual production of cooling tower sludge;

   b. Volume of material stored at the Facility;

   c. Disposal location.

C. Aboveground Petroleum Storage Monitoring Requirements

The Discharger shall visually inspect the aboveground petroleum storage tanks, as required by the Facility's Spill Prevention Control and Countermeasure (SPCC) Plan. In the event of a petroleum release of greater than 42 gallons that meets the reporting requirements of the SPCC Plan, a report shall be submitted describing the corrective action that was taken to remediate and dispose of the contaminated area. The results shall be submitted with the monthly self-monitoring report.

D. Effluent and Receiving Water Characterization

1. **Monitoring.** Samples shall be collected from the effluent and upstream receiving water (Monitoring Locations EFF-001, SW-001 and RSW-001) once during the term of the permit and analyzed for the constituents listed in Table E-10, below. Monitoring shall be conducted during the first process wastewater discharge event and the first industrial storm water discharge event that occur after the effective date of this Order and the results of such monitoring shall be submitted to the Central Valley Water Board with the monthly self-monitoring reports. Each individual monitoring event shall provide representative sample results for the effluent and upstream receiving water.

2. **Concurrent Sampling.** Effluent and receiving water sampling shall be performed at approximately the same time, on the same date.

3. **Sample Type.** All effluent and receiving water samples shall be taken as grab samples.

Table E-10. Effluent and Receiving Water Characterization Monitoring

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
2- Chloroethyl vinyl ether	µg/L	Grab	1
Acrolein	µg/L	Grab	2
Acrylonitrile	µg/L	Grab	2
Benzene	µg/L	Grab	0.5
Bromoform	µg/L	Grab	0.5
Carbon Tetrachloride	µg/L	Grab	0.5
Chlorobenzene	µg/L	Grab	0.5
Chloroethane	µg/L	Grab	0.5
Chloroform	µg/L	Grab	2
Chloromethane	µg/L	Grab	2
Dibromochloromethane	µg/L	Grab	0.5
Dichlorobromomethane	µg/L	Grab	0.5
Dichloromethane	µg/L	Grab	2
Ethylbenzene	µg/L	Grab	2
Hexachlorobenzene	µg/L	Grab	1
Hexachlorobutadiene	µg/L	Grab	1

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
Hexachloroethane	µg/L	Grab	1
Methyl bromide (Bromomethane)	µg/L	Grab	1
Naphthalene	µg/L	Grab	10
Parachlorometa cresol	µg/L	Grab	--
Tetrachloroethene	µg/L	Grab	0.5
Toluene	µg/L	Grab	2
trans-1,2-Dichloroethylene	µg/L	Grab	1
Trichloroethene	µg/L	Grab	2
Vinyl chloride	µg/L	Grab	0.5
Methyl-tert-butyl ether (MTBE)	µg/L	Grab	--
Trichlorofluoromethane	µg/L	Grab	--
1,1,1-Trichloroethane	µg/L	Grab	0.5
1,1-dichloroethane	µg/L	Grab	0.5
1,1-dichloroethylene	µg/L	Grab	0.5
1,2-dichloropropane	µg/L	Grab	0.5
1,3-dichloropropylene	µg/L	Grab	0.5
1,1,2,2-tetrachloroethane	µg/L	Grab	0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	Grab	0.5
1,2,4-trichlorobenzene	µg/L	Grab	1
1,2-dichoroethane	µg/L	Grab	0.5
1,2-dichlorobenzene	µg/L	Grab	0.5
1,3-dichlorobenzene	µg/L	Grab	0.5
1,4-dichlorobenzene	µg/L	Grab	0.5
Styrene	µg/L	Grab	--
Xylenes	µg/L	Grab	--
1,2-Benzanthracene	µg/L	Grab	5
1,2-Diphenylhydrazine	µg/L	Grab	1
2-Chlorophenol	µg/L	Grab	5
2,4-Dichlorophenol	µg/L	Grab	5
2,4-Dimethylphenol	µg/L	Grab	2
2,4-Dinitrophenol	µg/L	Grab	5
2,4-Dinitrotoluene	µg/L	Grab	5
2,4,6-Trichlorophenol	µg/L	Grab	10
2,6-Dinitrotoluene	µg/L	Grab	5
2-Nitrophenol	µg/L	Grab	10
2-Chloronaphthalene	µg/L	Grab	10
3,3'-Dichlorobenzidine	µg/L	Grab	5
3,4-Benzofluoranthene	µg/L	Grab	10
4-Chloro-3-methylphenol	µg/L	Grab	5
4,6-Dinitro-2-methylphenol	µg/L	Grab	10
4-Nitrophenol	µg/L	Grab	10
4-Bromophenyl phenyl ether	µg/L	Grab	10
4-Chlorophenyl phenyl ether	µg/L	Grab	5
Acenaphthene	µg/L	Grab	1
Acenaphthylene	µg/L	Grab	10
Anthracene	µg/L	Grab	10
Benzidine	µg/L	Grab	5
Benzo(a)pyrene (3,4-Benzopyrene)	µg/L	Grab	2
Benzo(g,h,i)perylene	µg/L	Grab	5
Benzo(k)fluoranthene	µg/L	Grab	2

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
Bis(2-chloroethoxy) methane	µg/L	Grab	5
Bis(2-chloroethyl) ether	µg/L	Grab	1
Bis(2-chloroisopropyl) ether	µg/L	Grab	10
Bis(2-ethylhexyl) phthalate	µg/L	Grab	5
Butyl benzyl phthalate	µg/L	Grab	10
Chrysene	µg/L	Grab	5
Di-n-butylphthalate	µg/L	Grab	10
Di-n-octylphthalate	µg/L	Grab	10
Dibenzo(a,h)-anthracene	µg/L	Grab	0.1
Diethyl phthalate	µg/L	Grab	10
Dimethyl phthalate	µg/L	Grab	10
Fluoranthene	µg/L	Grab	10
Fluorene	µg/L	Grab	10
Hexachlorocyclopentadiene	µg/L	Grab	5
Indeno(1,2,3-c,d)pyrene	µg/L	Grab	0.05
Isophorone	µg/L	Grab	1
N-Nitrosodiphenylamine	µg/L	Grab	1
N-Nitrosodimethylamine	µg/L	Grab	5
N-Nitrosodi-n-propylamine	µg/L	Grab	5
Nitrobenzene	µg/L	Grab	10
Pentachlorophenol	µg/L	Grab	1
Phenanthrene	µg/L	Grab	5
Phenol	µg/L	Grab	1
Pyrene	µg/L	Grab	10
Aluminum	µg/L	Grab	--
Antimony	µg/L	Grab	5
Arsenic	µg/L	Grab	10
Asbestos	µg/L	Grab	--
Barium	µg/L	Grab	--
Beryllium	µg/L	Grab	2
Cadmium	µg/L	Grab	0.5
Chromium (III)	µg/L	Grab	50
Chromium (VI)	µg/L	Grab	10
Copper[3]	µg/L	Grab	2
Cyanide	µg/L	Grab	5
Fluoride	µg/L	Grab	--
Iron[3]	µg/L	Grab	--
Lead[3]	µg/L	Grab	0.5
Mercury	µg/L	Grab	0.5
Manganese	µg/L	Grab	--
Molybdenum	µg/L	Grab	--
Nickel	µg/L	Grab	5
Selenium	µg/L	Grab	5
Silver	µg/L	Grab	0.25
Thallium	µg/L	Grab	1
Tributyltin	µg/L	Grab	--
Zinc[3]	µg/L	Grab	20
4,4'-DDD	µg/L	Grab	0.05
4,4'-DDE	µg/L	Grab	0.05
4,4'-DDT	µg/L	Grab	0.01

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
alpha-Endosulfan	µg/L	Grab	0.02
alpha-Hexachlorocyclohexane (BHC)	µg/L	Grab	0.01
Alachlor	µg/L	Grab	--
Aldrin	µg/L	Grab	0.005
beta-Endosulfan	µg/L	Grab	0.01
beta-Hexachlorocyclohexane	µg/L	Grab	0.005
Chlordane	µg/L	Grab	0.1
delta-Hexachlorocyclohexane	µg/L	Grab	0.005
Dieldrin	µg/L	Grab	0.01
Endosulfan sulfate	µg/L	Grab	0.01
Endrin	µg/L	Grab	0.01
Endrin Aldehyde	µg/L	Grab	0.01
Heptachlor	µg/L	Grab	0.01
Heptachlor Epoxide	µg/L	Grab	0.02
Lindane (gamma-Hexachlorocyclohexane)	µg/L	Grab	0.5
PCB-1016	µg/L	Grab	0.5
PCB-1221	µg/L	Grab	0.5
PCB-1232	µg/L	Grab	0.5
PCB-1242	µg/L	Grab	0.5
PCB-1248	µg/L	Grab	0.5
PCB-1254	µg/L	Grab	0.5
PCB-1260	µg/L	Grab	0.5
Toxaphene	µg/L	Grab	--
Atrazine	µg/L	Grab	--
Bentazon	µg/L	Grab	--
Carbofuran	µg/L	Grab	--
2,4-D	µg/L	Grab	--
Dalapon	µg/L	Grab	--
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	Grab	--
Di(2-ethylhexyl)adipate	µg/L	Grab	--
Dinoseb	µg/L	Grab	--
Diquat	µg/L	Grab	--
Endothal	µg/L	Grab	--
Ethylene Dibromide	µg/L	Grab	--
Methoxychlor	µg/L	Grab	--
Molinate (Ordram)	µg/L	Grab	--
Oxamyl	µg/L	Grab	--
Picloram	µg/L	Grab	--
Simazine (Princep)	µg/L	Grab	--
Thiobencarb	µg/L	Grab	--
2,3,7,8-TCDD (Dioxin)	µg/L	Grab	--
2,4,5-TP (Silvex)	µg/L	Grab	--
Diazinon	µg/L	Grab	--
Chlorpyrifos	µg/L	Grab	--
Ammonia (as N)	mg/L	Grab	--
Boron	µg/L	Grab	--
Chloride	mg/L	Grab	--
Flow	MGD	Grab	--

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
Hardness (as $CaCO_3$)[3]	mg/L	Grab	--
Foaming Agents (MBAS)	µg/L	Grab	--
Mercury, Methyl	ng/L	Grab	--
Nitrate (as N)	mg/L	Grab	--
Nitrite (as N)	mg/L	Grab	--
pH[3]	Std Units	Grab	--
Phosphorus, Total (as P)	mg/L	Grab	--
Specific conductance (EC)[3]	µmhos/cm	Grab	--
Sulfate	mg/L	Grab	--
Sulfide (as S)	mg/L	Grab	--
Sulfite (as SO_3)	mg/L	Grab	--
Temperature	^oC	Grab	--
Total Dissolved Solids (TDS)	mg/L	Grab	--
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	Grab	--
Chemical Oxygen Demand[3]	mg/L	Grab	--
Oil and Grease[3]	mg/L	Grab	--
Phenols, Total	µg/L	Grab	--
Resin and Fatty Acids	mg/L	Grab	--
Tannins and Lignins[3]	mg/L	Grab	--
Total Organic Carbon	mg/L	Grab	--
Total Suspended Solids[3]	mg/L	Grab	--
Turbidity[3]	NTU	Grab	--

[1] The reporting levels required in this table for priority pollutant constituents are established based on Section 2.4.2 and Appendix 4 of the SIP.

[2] In order to verify if bis (2-ethylhexyl) phthalate is truly present, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.

[3] The Discharger is not required to conduct effluent monitoring for constituents that have already been sampled in a given month, as required in Tables E-2 and E-3, except for hardness, pH, and temperature, which shall be conducted concurrently with the effluent sampling.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. Upon written request of the Central Valley Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).

3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Central Valley Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the compliance time schedule.

4. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting

the data to the Commission pursuant to section 313 of the "*Emergency Planning and Community Right to Know Act*" of 1986.

B. Self-Monitoring Reports (SMR's)

1. The Discharger shall electronically submit SMR's using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMR's including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMR's are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-11. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
1/Week	Permit effective date	Sunday through Saturday	Submit with monthly SMR
1/Month	Permit effective date	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1/Quarter	Permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 1 February of following year
2/Year	Permit effective date	1 January through 30 June 1 July through 31 December	1 August 1 February of following year
1/Year	Permit effective date	1 January through 31 December	1 February of following year

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current laboratory's Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

d. Dischargers are to instruct laboratories to establish calibration standards so that the Minimum Level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. **Multiple Sample Data.** When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

6. The Discharger shall submit SMR's in accordance with the following requirements:

a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDR's; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

c. The Discharger shall attach all laboratory analysis sheets, including quality assurance/quality control information, with all its SMR's for which sample analyses were performed.

7. The Discharger shall submit in the SMR's calculations and reports in accordance with the following requirements:

~~a. **Calendar Annual Average Limitations**. For constituents with effluent limitations specified as "calendar annual average" (iron) the Discharger shall report the calendar annual average in the December SMR. The annual average shall be calculated as the average of the samples gathered for the calendar year.~~

~~b.~~a. **Turbidity Receiving Water Limitations**. The Discharger shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition specified in Section V.A.17.a-e of the Limitations and Discharge Requirements.

~~c.~~b. **Temperature Receiving Water Limitations**. The Discharger shall calculate and report the temperature increase in the receiving water based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002.

~~d.~~c. **Log Deck Sprinkling**. The Discharger shall report the dates in which log deck sprinkling occurred in the monthly SMR.

~~e.~~d. **Groundwater Monitoring Reports.** The reports shall be prepared by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities, and shall bear the professional's signature and stamp. Each quarterly report shall contain:

i. Results of the monitoring of the groundwater in tabular format;

ii. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with this Order. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;

iii. Calculation of groundwater elevations, determination of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;

iv. Summary data tables of historical and current groundwater elevations;

v. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Discharge Monitoring Reports (DMR's) – Not Applicable

D. Other Reports

1. **Special Study Reports and Progress Reports**. As specified in the Special Provisions contained in section VI of the Order, special study and progress reports shall be submitted in accordance with the following reporting requirements.

Table E-12. Reporting Requirements for Special Provisions Reports

Special Provision	Reporting Requirements
Log Deck Flushing Study, Updated Work Plan (Special Provision VI.C.2.b)	**1 October 2015**
Log Deck Flushing Study, Final Report (Special Provision VI.C.2.b)	**Within 6 months** of study completion
Best Management Practice (BMP) Improvement Evaluation (Special Provision VI.C.2.c)	**Within 60 days** of action level exceedance or receiving water violation
Groundwater Water Quality Characterization Study (Special Provision VI.C.2.d)	**1 February 2017**
Best Practical Treatment or Control (BPTC) Workplan (if necessary)	**1 May 2017**
Salinity Evaluation and Minimization Plan, Updated Plan (Special Provision VI.C.3.a)	**Within 9 months** of the effective date of this Order
Salinity Evaluation and Minimization Plan, Progress Reports (Special Provision VI.C.3.a)	**1 February,** annually
Storm Water Pollution Prevention Plan (SWPPP) (Special Provision VI.C.3.b)	**1 October 2015**
Elimination of Process Wastewater Discharges to Surface Water, Annual Progress Reports (Special Provisions VI.C.4.a)	**1 February,** annually

2. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions VI.C. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

3. **Within 60 days of permit adoption**, the Discharger shall submit a report outlining reporting levels (RL's), method detection limits (MDL's), and analytical methods for the constituents listed in tables E-2, E-3, E-5, E-6, E-7, and E-9. In addition, no less than 6 months prior to conducting the effluent and receiving water characterization monitoring required in Section IX.D, the Discharger shall submit a report outlining RL's, MDL's, and analytical methods for the constituents listed in Table E-10. The Discharger shall comply with the monitoring and reporting requirements for CTR constituents as outlined in section 2.3 and 2.4 of the SIP. The maximum required reporting levels for priority pollutant constituents shall be based on the Minimum Levels (ML's) contained in Appendix 4 of the SIP, determined in accordance with Section 2.4.2 and Section 2.4.3 of the SIP. In accordance with Section 2.4.2 of the SIP, when there is more than one ML value for a given substance, the Central Valley Water Board shall include as RL's, in the permit, all ML values, and their associated analytical methods, listed in Appendix 4 that are below the calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the Central Valley Water Board shall select as the RL, the lowest ML value, and its associated analytical method, listed in Appendix 4 for inclusion in the permit. Table E-10 provides required maximum reporting levels in accordance with the SIP.

4. **Annual Operations Report.** By 30 January of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

   a. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations.

   b. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.

   c. The Discharger may also be requested to submit an annual report to the Central Valley Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

ATTACHMENT F – FACT SHEET

Contents

Tables

ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Central Valley Water Board incorporates this Fact Sheet as findings of the Central Valley Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	5A321016001
CIWQS Facility Place ID	256965
Discharger	Sierra Pacific Industries
Name of Facility	Quincy Division
Facility Address	1538 Lee Road
	Quincy, CA 95971
	Plumas County
Facility Contact, Title and Phone	Chris Skinner, Plant Manager, (530) 283-2820
Authorized Person to Sign and Submit Reports	Chris Skinner, Plant Manager, (530) 283-2820
Mailing Address	P.O. Box 750, Quincy, CA 95971
Billing Address	Same as Mailing Address
Type of Facility	Standard Industrial Classification (SIC) Code 4911 – Electrical Services SIC Code 2421 – Sawmill and Planing Mill
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	A
Pretreatment Program	Not Applicable
Recycling Requirements	Not Applicable
Facility Permitted Flow	Not Applicable
Facility Design Flow	Not Applicable
Watershed	North Fork Feather River
Receiving Water	Mill Creek
Receiving Water Type	Inland surface water

A. Sierra Pacific Industries (hereinafter Discharger) is the owner and operator of Quincy Division (hereinafter Facility), a sawmill and wood-burning cogeneration facility.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges Process Wastewater and Storm Water (as defined in Attachment A) to Mill Creek, a water of the United States, tributary to Spanish Creek and the East Branch of the North Fork Feather River within the North Fork Feather River watershed. The Discharger was previously regulated by Order R5-2008-0090 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0080357 adopted on 12 June 2008 and expired on 1 June 2013. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

C. The Discharger filed a report of waste discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDR's) and NPDES permit on 15 August 2012. Supplemental information was received on 7 October 2014. The application was deemed complete on 12 December 2012. A site visit was conducted on 12 November 2014 to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

II. FACILITY DESCRIPTION

The Facility is a sawmill and wood-burning cogeneration facility located in Quincy, CA. The Facility is bordered by Mill Creek to the north and east, Lee Road to the south, and Bell Lane to the west. The Facility occupies approximately 157 acres located on 10 parcels of land. The parcels on which the sawmill and cogeneration plant are located occupy approximately 106 acres, which is 95% paved.

The cogeneration plant produces a gross 27 megawatts (MW) of electric power, and approximately 18 to 20 MW is sold on the market. The sawmill operation consists of log scaling, wet and dry log storage, mechanical log debarking, sawmill, planing mill, kilns, lumber storage, aboveground petroleum storage areas, equipment fueling and maintenance, paved and unpaved roadways, and an office. The site includes a small log sawmill and large log sawmill. Wood waste from the sawmill is delivered to the cogeneration plant by conveyor.

A. Description of Wastewater and Biosolids Treatment and Controls

1. **Sawmill.** Site grading and the storm water drainage system direct all storm water runoff from the sawmill complex to the northwest corner of the Facility to a log deck pond system. The sawmill complex consists of a 36.4-acre general industrial stormwater area in the southwestern portion of the Facility (see shaded area in Attachment C) and a 53.6-acre log deck which is completely paved with asphalt.

   Approximately 65 million board feet of logs are stacked on the paved log deck. During the dry summer months, the logs are sprinkled with water to prevent the development of blue stain and end checking. Sprinkling usually ends in late October or early November; however, sprinkling may occur outside that timeframe when air temperatures exceed 50°F. Excess log deck runoff drains to the log deck pond system. Log deck runoff contains bark, sawdust, tannins and lignins, dissolved organics, and settleable and suspended solids.

   The log deck pond system consists of a bark separator, three log deck settling ponds (Ponds 1, 2, and 4), and a 5-acre retention pond (see site plan in Attachment C). The settling ponds gravity drain and are valved to allow flexibility in operations. Pumps transfer water between Pond 2 and the retention pond. The Facility also includes a fire

pond and a 45 acre-feet irrigation pond. The Discharger manages process water (see definition in Attachment A) and industrial storm water from the sawmill complex as follows:

a. **Dry Weather**

i. Water in Ponds 1 and 2 is recycled for log deck sprinkling.

ii. Water in the retention pond may also be pumped to Ponds 1 and 2 and then recycled for log deck sprinkling.

b. **Wet Weather**

i. The Discharger draws down Ponds 1, 2, and 4 and the retention pond to the extent possible prior to the beginning of the wet season.

ii. All storm waterrunoff from the 36.4-acre general industrial stormwater area is directed to Pond 4 and discharged to Mill Creek under the State Water Resources Control Board (State Water Board) Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities (General Industrial Storm Water Permit). This Order does not regulate discharges of general industrial storm water from the 36.4-acre general industrial stormwater area.

iii. First flush storm water from the 53.6-acre log deck area is routed to Ponds 1 and 2, and immediately pumped from Pond 2 to the retention pond until completely emptied. Retention pond water may then be filtered using four sand filters located adjacent to the retention pond and conveyed to the fire pond for use in the cogeneration plant, from which water cannot be redistributed back to the pond system. Should discharges of process water be necessary, discharges would occur from Pond 2 through a gravel diffuser and weir box to Mill Creek at Discharge Point 001.

iv. Subsequent to the emptying of process water from Ponds 1 and 2, industrial storm water (i.e., subsequent to the first flush) from the 53.6-acre log deck area is directed to Ponds 1 and 2, from which it may be directed to the retention pond or irrigation pond, or discharged to Mill Creek at Discharge Point SW-001.

For the purposes of this Order, and as defined in Attachment A, process wastewater for this Facility shall include log deck sprinkling water and “first flush” storm water. The first flush is defined as the first 2 inches of rainfall from the 53.6-acre log deck area commingled with residual pond water on the paved log deck following cessation of log deck sprinkling. The first flush collection may occur more than once in a wet season if the Discharger intermittently sprinkles logs with pond water during the wet season. Storm water runoff subsequent to the first flush is considered industrial storm water. The practice of collecting the first 2 inches of log deck runoff is considered a best management practice (BMP) to reduce pollutants in the storm water discharge to surface water and is based on a log deck flushing study conducted by a nearby discharger with similar operations. Order R5-2008-0090 required the Discharger to conduct a Log Deck Flushing Study to determine the minimum volume of flush or amount of rainfall that is required to ensure residual pollutants on the log deck have been sufficiently removed. However, the Discharger was unable to complete the study due to insufficient precipitation. Due to the variations in operations at different facilities, a site-specific study is necessary to confirm that capturing the first 2 inches of rainfall will ensure residual pollutants on the log deck have been sufficiently removed for discharges from the

Facility. This Order requires the Discharger to complete a site-specific Log Deck Flushing Study and includes a reopener to modify the volume of flush or amount of rainfall that constitutes process wastewater (i.e., first flush) for this Facility based on the results of the study.
Settled matter is removed from the settling pond bottoms approximately every 3 to 6 months or as needed. Bark and wood debris are reused off-site as landscape mulch or soil amendment.

Debarking, sawmill, and planing mill processes are contained under cover; thus, no other process wastewater discharges occur from these activities.

At the time Order R5-2008-0090 was adopted, the Discharger was planning to modify the log deck pond system to allow for discharges at a proposed Discharge Point 002 directly from the retention pond. Thus, Order R5-2008-0090 included effluent limitations and monitoring requirements for the proposed discharge. However, the Discharger did not pursue these modifications during the term of Order R5-2008-0090 and is no longer planning to make these modifications. Therefore, the effluent limitations for Discharge Point 002 and associated monitoring requirements at Monitoring Locations EFF-002 and RSW-003 have not been retained in this Order.

2. **Cogeneration Plant.** Process wastewaters generated from the cogeneration plant include reverse osmosis concentrate, demineralizer regeneration wastewater, boiler blowdown water, and cooling tower blowdown water. These process wastewater are collected in a collection sump and then directed to the fire pond, from which it may be reused within the cogeneration plant. This Order does not authorize the discharge of process wastewaters generated from the cogeneration plant to surface water. Therefore, the associated monitoring requirements at Monitoring Locations SPL-001 (industrial water supply) and COGEN-001 (congeneration plant effluent) from Order R5-2008-0090 have not been retained in this Order. Fly ash and bottom ash generated by the cogeneration plant is transferred directly to transfer vehicles or may be contained within the covered ash building.

3. **Material Storage.** All the storage tanks at the Facility are protected by roof coverings and secondary containment. The following petroleum tanks are located in the fuel storage area: 20,000-gallon above ground diesel tank, and a 4,000-gallon above ground gasoline tank. Other fuels, oils, and chemicals are stored at various facility locations.

4. **Domestic Waste.** Domestic wastes generated from buildings along Lee Road, with the exception of the truck shop, are directed to the East Quincy Services District Wastewater Treatment Plant (WWTP). This includes waste from the forklift shop and an office on the south side of the Facility. Additionally, wash water from the two on-site wash racks is discharged to the WWTP.

   Domestic wastes generated from the truck shop and buildings within the central portion of the Facility are discharged to six septic tank/leachfield systems. The septic tanks are pumped every 3 to 5 years.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 18, T24N, R10E, MDB&M, as shown in Attachment B, a part of this Order.

2. Log deck sprinkling water and first flush storm water runoff from the 53.6-acre log deck area is discharged at Discharge Point 001 to Mill Creek, a water of the United States and a tributary to Spanish Creek and the East Branch of the North Fork Feather River at a point latitude 39° 56’ 34.8” N and longitude 120° 54’ 24.38” W.

3. Industrial storm water from the 53.6-acre log deck area is discharged at Discharge Point SW-001 to Mill Creek, a water of the United States and a tributary to Spanish Creek and the East Branch of the North Fork Feather River at a point latitude 39° 56' 34.8" N and longitude 120° 54' 24.38" W.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in Order R5-2008-0090 for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of Order R5-2008-0090 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitations		Monitoring Data (September 2011 – August 2014)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
Total Suspended Solids	mg/L	--	100	--	96
Settleable Solids	ml/L	0.1	0.2	<0.1	<0.1
Electrical Conductivity @ 25°C	µmhos/cm	700	900	293	357
pH	standard units	--	6.0 – 9.0	--	6.04 – 7.7
Copper, Total Recoverable	µg/L	3.3	6.6	24.5	24.5
Lead, Total Recoverable	µg/L	0.56	1.13	4.9	4.9
Acute Toxicity	% Surivival	--	70[1]/90[2]	--	50[3]

[1] Minimum for any one bioassay.
[2] Median for any three consecutive bioassays.
[3] Represents the minimum observed percent survival.

D. Compliance Summary

1. The Central Valley Water Board issued Administrative Civil Liability (ACL) Complaint No. R5-2012-0536 on 8 May 2012 which proposed to assess a civil liability of $6,000 against the Discharger for violations of effluent limitations for copper that occurred between 1 January 2012 and 31 January 2012. The Discharger paid the mandatory minimum penalty of $6,000.

2. The Central Valley Water Board issued ACL Complaint No. R5-2013-0561 on 6 September 2013 which proposed to assess a civil liability of $21,000 against the Discharger for violations of effluent limitations for copper and lead that occurred between 1 June 2011 and 30 June 2011 and between 1 March 2012 and 30 April 2012. The Discharger paid the mandatory minimum penalty of $21,000.

E. Planned Changes

The Discharger has made several improvements to reduce impacts to surface water. During the term of Order R5-2008-0090 the Discharger has made the following improvemnets: 1) added two additional culverts into the bark separator to decrease water velocity and improve the efficiency of the bark separator; 2) added additional paving at the log-truck gate entry and north of the planer around the truck tarping station to reduce turbidity and settleable matter

from becoming entrained in storm water; 3) redirected cogeneration-sump process water to the fire pond, to eliminate all cogeneration process water from commingling with storm water; 5) installed paving on four acres of previously unpaved log deck area in the southwest corner of facility adjacent to Bell Lane and Lee Road to improve stormwater quality and the effectiveness of best management practices; 6) combined Ponds 2 and 3 into one larger pond (now designated Pond 2) to increase retention volume and settling effectiveness and minimize discharges to surface water; 7) acquired 51 acres of adjacent property and constructed an irrigation pond, from which collected storm water can be used for summer irrigation of pasture; 8) replaced the former large log sawmill with a new, modern large log sawmill, entirely contained under one roof with zero water discharge, low impact (low zinc) roofing material, and new storm water drainage system. This project resulted in approximately 3 to 4 acres of hardscape that was previously unpaved; and 9) installed new culverts, piping and valves to segregate stormwater flows from an approximate 34 acre area of the site, thereby significantly reducing the volume of storm water comingled with process water.

As described in the Discharger's ROWD, changes to the water management system are ongoing to address the potential for continued violations of effluent limitations. The compliance approach selected by the discharger to meet the effluent limitations applicable to process water and process water comingled with stormwater is to eliminate the D-001 discharge through expanded on site retention coupled with further segregation of industrial stormwater.

In late 2014, the discharger completed segregation of stormwater from the 36.4 acre area now covered under the General Industrial Stormwater Permit. While there is limited operating experience with the new system, this change will significantly improve the Discharger's ability to manage process water and stormwater comingled with process water. It is not clear whether this change alone will be sufficient to eliminate the process water discharge. The discharger has retained a consultant to evaluate current pumping and conveyance capabilities and to recommend any improvements needed.

The Discharger is ~~additionally~~ in the process of connecting the recently completed irrigation pond to Pond~~s~~a 1 and 2 such that industrial stormwater (subsequent to first flush) can be routed to the irrigation pond. This project requires a pipe bridge to be constructed over Mill Creek, which is currently in the permitting process. When the conveyance is completed, the Discharger will have additional storage capacity for managing industrial stormwater, which should increase the available storage in the retention pond for process water or process water comingled with stormwater.

Until the improvements described above are complete and operational, there is continued potential for discharges of process water and industrial stormwater to Mill Creek. The Discharger has not requested a compliance schedule for completing the planned changes because it is currently in compliance with the provisions of the proposed permit and intends to remain in compliance without need for a compliance schedule.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of

the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plans.** Requirements of this Order specifically implement the applicable Water Quality Control Plans.

   a. **Basin Plan.** The Central Valley Water Board adopted a Water Quality Control Plan, Fourth Edition (Revised October 2011), for the Sacramento and San Joaquin River Basins (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan.

   The Basin Plan at II-2.00 states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Basin Plan in Table II-1, Section II, does not specifically identify beneficial uses for Mill Creek, but does identify present and potential uses for the North Fork Feather River, to which Mill Creek, via Spanish Creek, is tributary. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, beneficial uses applicable to Mill Creek are as follows:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001 and SW-001	Mill Creek	Existing: Municipal and domestic supply (MUN); hydropower generation (POW); water contact recreation, including canoeing and rafting (REC-1); non-contact water recreation (REC-2); cold freshwater habitat (COLD); cold spawning, reproduction, and/or early development (SPWN); and wildlife habitat (WILD).
--	Groundwater	Existing: Municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND): and industrial process supply (PRO).

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain federal water quality criteria for priority pollutants.

3. **State Implementation Policy.** On 2 March 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on 28 April 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Central Valley Water Board in the Basin Plan. The SIP became effective on 18 May 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005, that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

   The SIP states in footnote 1, "*This Policy does not apply to regulation of storm water discharges. The SWRCB has adopted precedential decisions addressing regulation of municipal storm water discharges in Orders WQ 91-03, 91-04, 96-13, 98-01, and 99-05. The SWRCB has also adopted two statewide general permits regulating the discharge of pollutants contained in storm water from industrial and construction activities.*" This Order regulates the discharge of storm water from industrial activity to surface water. Therefore the SIP provisions for establishment of effluent limitations are not applicable to discharges of industrial storm water (i.e., subsequent to the first flush) from the 53.6-acre log deck area and effluent limitations for priority pollutants have not been established for these discharges. However receiving water limitations and BMP's ensure that beneficial uses of the receiving water are protected and water quality standards are not exceeded.

4. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Central Valley Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

5. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

6. **Domestic Water Quality.** In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels (MCL's) designed to protect human health and ensure that water is safe for domestic use.

7. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent

limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

8. **Storm Water Requirements.** U.S. EPA promulgated federal regulations for storm water on 16 November 1990 in 40 C.F.R. parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from sawmills and planing mills. Sawmills and planing mills are applicable industries under the storm water program and are obligated to comply with the federal regulations. The Facility submitted its Notice of Intent (NOI) to be covered under the General Industrial Storm Water Permit on 2 September 2014. Discharges to Mill Creek of storm water runoff from the 36.4-acre general industrial stormwater area from Pond 4 are subject to the requirements of the General Industrial Storm Water Permit.

   The discharge of industrial storm water from the 53.6-acre log deck area could be regulated under the General Industrial Storm Water Permit. However, due to the complexity of the Facility operations and unique threats to water quality, the Central Valley Water Board has elected to regulate these discharges with an individual NPDES permit. Therefore, discharges of industrial storm water from the 53.6-acre log deck area are not covered under the General Industrial Storm Water Permit and are covered under this Order.

D. Impaired Water Bodies on CWA 303(d) List

1. Under section 303(d) of the 1972 CWA, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 11 October 2011 U.S. EPA gave final approval to California's 2008-2010 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "…*those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources* (40 C.F.R. part 130, et seq.)." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment*." Mill Creek, Spanish Creek, and the East Branch of the North Fork Feather River are not listed as impaired waterbodies on the 2010 303(d) list.

2. **Total Maximum Daily Loads (TMDL's).** U.S. EPA requires the Central Valley Water Board to develop TMDL's for each 303(d) listed pollutant and water body combination. No TMDL's have been adopted for the receiving water.

E. Other Plans, Policies and Regulations

1. **Title 27.** Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. Discharges of wastewater to land, including but not limited to evaporation ponds or percolation ponds, may be exempt from the requirements of Title 27, CCR, based on section 20090 et seq. The Facility includes settling ponds (Ponds 1 and 2), a retention pond, and a fire pond that may be exempt from Title 27 pursuant to section 20090(b), the "wastewater exemption." The wastewater exemption has the following preconditions for exemption from Title 27:

> ***20090(b) Wastewater*** *– Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met:*
>
> *(1) the applicable [regional water quality control board] has issued WDRs, or waived such issuance;*
>
> *(2) the discharge is in compliance with the applicable water quality control plan; and*
>
> *(3) the wastewater does not need to be managed . . . as a hazardous waste . . .*

The Fire Pond is lined and meets the preconditions for exemption from Title 27. Ponds 1 and 2, and the Retention Pond meet the preconditions for exemption from Title 27. However, because these ponds are unlined and wastewater contained in the ponds percolates to the underlying groundwater, additional investigation is needed to ensure the discharge is not causing an exceedance of water quality objectives and is in compliance with State and Federal antidegradation policies.

As discussed in Section IV.D.4.b, on 3 March 2009, the Discharger submitted a groundwater characterization study, which was required in previous Order R5-2008-0090. Based on data from 2002 to 2008, the Discharger concluded in the 2009 characterization study that downgradient mean concentrations were not statistically higher than the background concentrations for any parameter. However, based on the most recent groundwater monitoring data (2010 to 2012) the concentrations of some cosntituents are higher than the background groundwater levels, and in some cases exceed applicable water quality objectives (Figures F-1, F-2, F-3, and F-4). Therefore, this Order requires the Discharger to update its Groundwater Water Quality Characterization Study considering the new data. The Discharger is required to re evaluate and characterize natural background quality of monitored constituents in a technical report (Section VII.C.2.d. Limitations and Discharge Requirements). The Discharger is also required to conduct an Antidegradation Analysis for discharges to groundwater Section VII.C.2.e (Special Provisions) and conduct a Title 27 Exemption evaluation Section VII.C.2.f (Special Provisions). . This information is need to verify that precondition (2) is met and the discharge is exempt from Title 27 under the wastewater exemption.

2. **Wood Ash**. Pursuant to state and federal regulations, wood ash classified as non-hazardous solid waste, may be beneficially reused as an agricultural soil amendment, or other appropriate use. This Order does not authorize storage, transportation, or disposal of ash or other wastes characterized as hazardous wastes. Appropriate separate regulatory coverage must be secured for such activities.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the CWA and amendments thereto are applicable to the discharge.

The CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., §1311(b)(1)(C); 40 C.F.R. § 122.44(d)(1)]. NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to

federal regulations, 40 C.F.R. section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that "*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality*." Federal regulations, 40 C.F.R. section 122.44(d)(1)(vi), further provide that "[w]*here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits*."

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include WQBEL's to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Basin Plan at page IV-17.00, contains an implementation policy, "Policy for Application of Water Quality Objectives", that specifies that the Central Valley Water Board "*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives*." This Policy complies with 40 C.F.R. section 122.44(d)(1). With respect to narrative objectives, the Central Valley Water Board must establish effluent limitations using one or more of three specified sources, including: (1) U.S. EPA's published water quality criteria, (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (i.e., the Central Valley Water Board's "Policy for Application of Water Quality Objectives")(40 C.F.R. § 122.44(d)(1)(vi)(A), (B) or (C)), or (3) an indicator parameter.

The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, discoloration, radionuclides, and tastes and odors. The narrative toxicity objective states: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at III-8.00) The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The narrative chemical constituents objective states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, "…*water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)*" in Title 22 of CCR. The Basin Plan further states that, to protect all beneficial uses, the Central Valley Water Board may apply limits more stringent than MCL's. The narrative tastes and odors objective states: "*Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.*"

A. Discharge Prohibitions

1. **Prohibition III.A (No discharge or application of waste other than that described in this Order).** This prohibition is based on Water Code section 13260 that requires filing of a ROWD before discharges can occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore, discharges not described in this Order are prohibited.

2. **Prohibition III.B (No bypasses or overflow of untreated wastewater, except under the conditions at 40 C.F.R. section122.41(m)(4)).** As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal regulations, 40 C.F.R. section 122.41(m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the federal regulations, 40 C.F.R. section 122.41(m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board's prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the federal regulations, 40 C.F.R. section 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.

3. **Prohibition III.C (No controllable condition shall create a nuisance).** This prohibition is based on Water Code section 13050 that requires water quality objectives established for the prevention of nuisance within a specific area. The Basin Plan prohibits conditions that create a nuisance

4. **Prohibition III.D (No discharge of debris originating from the Facility).** Effluent limitation guidelines (ELG's) were established at 40 C.F.R. part 429, subpart I for the Wet Storage Subcategory of the Timber Products Point Source Category, which applies to discharges from the storage of logs or roundwood on land during which water is sprayed or deposited intentionally on the logs (wet decking). The Discharger stacks logs in a 53.6-acre paved area (log deck) and keeps them wet by a sprinkler system to prevent checking and blue staining, and thus the requirements of 40 C.F.R. part 429, subpart I are applicable to the Facility. 40 C.F.R. sections 429.101 and 429.103 require that existing point sources subject to subpart I achieve effluent limitations representing the degree of effluent reduction attainable by the application of best practicable control technology currently available (BPT) and best available technology economically achievable (BAT), respectively. For wet storage operations, 40 C.F.R. sections 429.101 and 429.103 both require that there shall be no debris discharged. Debris is defined as woody material such as bark, twigs, branches, heartwood, or sapwood that will not pass through a 2.54 cm (1.0 in) diameter round opening and is present in the discharge from a wet storage facility. Consistent with 40 C.F.R. sections 429.101 and 429.103 and Order R5-2008-0090, this Order prohibits discharges of debris recognized as originated from the Facility to surface waters or surface water drainage courses.

5. **Prohibition III.B (No discharge of wastewater from barking, sawmill, and planing operations).** ELG's were established at 40 C.F.R. part 429, subpart A for the Barking Subcategory of the Timber Products Point Source Category, which applies to discharges from the barking of logs, and at subpart K for the Sawmills and Planing Mills Subcategory, which applies to discharges from timber products processing procedures that include bark removal, sawing, resawing, edging, trimming, planing, and machining. The Discharger operates barking, sawmill, and planing mill operations, and thus the requirements of 40 C.F.R. part 429, subparts A and K are applicable to the Facility. 40 C.F.R. section 429.21(a) require that existing point sources subject to subpart A achieve effluent limitations representing the degree of effluent reduction attainable by the application of BPT. For mechanical barking operations, 40 C.F.R. section 429.21(a) requires that there shall be no discharge of process wastewater pollutants into navigable waters. 40 C.F.R. sections 429.121 and 429.123 require that existing point sources subject to subpart K achieve effluent limitations representing the degree of effluent reduction attainable by the application of BPT and BAT, respectively. For sawmill and planing mill operations, 40 C.F.R. sections 429.121 and 429.123 requires that there shall be no discharge of process wastewater pollutants into navigable waters. Consistent with

40 C.F.R. sections 429.21(a), 429.121, and 429.123, this Order prohibits discharges of process wastewater from barking, sawmill, and planing operations.

~~5.~~6. **Prohibition III.F (No process wastewater discharges to surface waters).** This Order includes effluent limitations for copper, lead, and zinc, for the process wastewater discharges to surface water, with which the Facility is unable to immediately comply. To come into compliance the Discharger has made Facility improvements in an effort to eliminate discharges of process wastewater to Mill Creek and has not requested a time schedule order. The Discharger must eliminate process wastewater discharges to surface waters by 1 June 2020.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharges of process wastewater authorized by this Order must meet minimum federal technology-based requirements based on ELG's for the Barking, Wet Storage, and Sawmills and Planing Mills Subcategories in 40 C.F.R. part 429, subparts A, I, and K, respectively and Best Professional Judgment (BPJ) in accordance with 40 C.F.R. section 125.3. The discharge of industrial storm water authorized by this Order must meet minimum federal technology-based requirements based on BPJ in accordance with 40 C.F.R. section 125.3.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

a. BPT represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

b. BAT represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform organisms, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop ELG's representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 C.F.R. section 125.3 authorize the use of BPJ to derive technology-based effluent limitations on a case-by-case basis where ELG's are not available for certain industrial categories and/or pollutants of

concern. Where BPJ is used, the Central Valley Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

2. Applicable Technology-Based Effluent Limitations

a. **Process Wastewater**

i. **Barking Operations.** As discussed in section IV.A.5 of this Fact Sheet, ELG's established at 40 C.F.R. part 429, subpart A for the Barking Subcategory of the Timber Products Point Source Category are applicable to the Facility. Consistent with 40 C.F.R. section 429.21(a), this Order establishes a prohibition of discharges of process wastewater from barking operations.

ii. **Wet Storage Operations.** As discussed in section IV.A.4 of this Fact Sheet, ELG's established at 40 C.F.R. part 429, subpart I for the Wet Storage Subcategory of the Timber Products Point Source Category are applicable to the Facility. Consistent with 40 C.F.R. sections 429.101 and 429.103 and Order R5-2008-0090, this Order prohibits discharges of debris recognized as originated from the Facility to surface waters or surface water drainage courses.

40 C.F.R. sections 429.101 and 103 also require that the pH be within the range of 6.0 to 9.0. Consistent with 40 C.F.R. sections 429.101 and 429.103 and Order R5-2008-0090, this Order includes instantaneous minimum and maximum effluent limitations for pH of 6.0 and 9.0.

iii. **Sawmill and Planing Mill Operations.** As discussed in section IV.A.5 of this Fact Sheet, ELG's established at 40 C.F.R. part 429, subpart K for the Sawmills and Planing Mills Subcategory of the Timber Products Point Source Category are applicable to the Facility. Consistent with 40 C.F.R. sections 429.121, and 429.123, this Order establishes a prohibition of discharges of process wastewater from sawmill and planing mill operations.

iv. ~~**COD and**~~ **TSS.** U.S. EPA's Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP) contains sector-specific benchmarks for General Sawmills and Planing Mills (SIC code 2421) for ~~chemical oxygen demand (COD) and~~ TSS of ~~120 mg/L and~~ 100 mg/L~~, respectively~~. Consistent with Order R5-2008-0090, this Order contains a maximum daily effluent limitation (MDEL) of 100 mg/L for TSS based on the site-specific benchmark in the MSGP based on BPJ. ~~In addition, this Order establishes an MDEL of 120 mg/L for COD based on the sector-specific benchmark in the MSGP based on BPJ.~~

b. **Industrial Storm Water**

i. **pH.** The ELG's for the Wet Storage Subcategory at 40 C.F.R. sections 429.101 and 429.103 are not directly applicable to discharges of industrial storm water (i.e., subsequent to the first flush) from the 53.6-acre log deck area. However, if an instantaneous minimum and maximum pH of 6.0 and 9.0, respectively, must be achieved for discharges of process wastewater from the log deck area, The Central Valley Water Board finds that it should also be achieveable for subsequent discharges of industrial storm water. Therefore, this Order includes instantaneous minimum and maximum effluent limitations for pH of 6.0 and 9.0 for discharges of industrial storm water based on BPJ.

Summary of Technology-based Effluent Limitations
Discharge Points 001 and SW-001

Table F-4. Summary of Technology-based Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	standard units	--	--	6.0	9.0
Total Suspended Solids	mg/L	--	100	--	--
~~***Non-Conventional Pollutants***~~					
~~Chemical Oxygen Demand~~	~~mg/L~~	~~--~~	~~120~~	~~--~~	~~--~~

Table F-5. Summary of Technology-based Effluent Limitations – Discharge Point SW-001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	standard units	--	--	6.0	9.0

C. Water Quality-Based Effluent Limitations (WQBEL's)

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBEL's must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBEL's when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

As specified in 40 C.F.R. section 122.44(k)(2), BMP's may be used in lieu of numeric effluent limitations when:

a. Authorized under section 304(e) of the CWA for control of toxic pollutants and hazardous substances for ancillary industrial activities;

b. Authorized under section 402(p) of the CWA for the control of storm water discharges;

c. Numeric effluent limitations are infeasible; or

d. The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purpose and intent of the CWA.

Section 402(p) of the CWA authorizes regulation of storm water discharges associated with industrial activities. Therefore, a combination of BMP's, numeric effluent limitations, and receiving water limitations are utilized in this Order to regulate the discharge of pollutants in discharges of industrial storm water.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

The Basin Plan on page II-1.00 states: "*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning…*" and with respect to disposal of wastewaters states that "...*disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*"

The federal CWA section 101(a)(2), states: "*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983.*" Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 C.F.R. sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. 40 C.F.R. section 131.3(e) defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 C.F.R. section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

a. **Receiving Water and Beneficial Uses.** Generally, there is flow in the segment of Mill Creek that borders the Facility from October until early summer. In early summer, Mill Creek is dry as a result of upstream diversions. Refer to section III.C.1. above for a complete description of the receiving water beneficial uses.

b. **Effluent and Ambient Background Data.** The RPA for process wastewater, as described in section IV.C.3 of this Fact Sheet, was based on data from September 2011 through August 2014, which includes effluent and ambient background data from discharges occurring in January, March, April, November, and December 2012 and March 2014 submitted in SMR's and the ROWD.

c. **Assimilative Capacity/Mixing Zone.** Based on the available information, the worst-case dilution is assumed to be zero to provide protection for the receiving water

beneficial uses. The impact of assuming zero dilution/assimilative capacity within the receiving water is that the discharge limitations are end-of-pipe limits with no allowance for dilution within the receiving water.

d. **Conversion Factors.** The CTR contains aquatic life criteria for arsenic, cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc which are presented in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. The default U.S. EPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total recoverable criteria.

e. **Hardness-Dependent CTR Metals Criteria.** The CTR and NTR contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness the lower the water quality criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

This Order has established the criteria for hardness-dependent metals based on the reasonable worst-case ambient hardness as required by the SIP[1] and the CTR[2]. The SIP and the CTR require the use of "receiving water" or "actual ambient" hardness, respectively, to determine effluent limitations for these metals. (SIP, § 1.2; 40 C.F.R. § 131.38(c)(4)) The CTR requires that the hardness values used shall be consistent with the design discharge conditions for design flows and mixing zones[3]. Where design flows for aquatic life criteria include the lowest one-day flow with an average reoccurrence frequency of once in ten years (1Q10) and the lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years (7Q10)[4]. The CTR also requires that when mixing zones are allowed the CTR criteria apply at the edge of the mixing zone, otherwise the criteria apply throughout the water body including at the point of discharge[5]. The CTR does not define whether the term "ambient," as applied in the regulations, necessarily requires the consideration of upstream as opposed to downstream hardness conditions.

The State Water Board provided direction regarding the selection of hardness in two precedential water quality orders; WQO 2008-0008 for the City of Davis Wastewater Treatment Plant and WQO 2004-0013 for the Yuba City Wastewater Treatment Plant. The State Water Board recognized that the SIP and the CTR do not discuss the manner in which hardness is to be ascertained, thus regional water boards have considerable discretion in determining ambient hardness. (Davis Order, p.10). The State Water Board explained that it is necessary that, "*The* [hardness] *value selected should provide protection for all times of discharge under varying hardness conditions*." (Yuba City Order, p. 8). The Davis Order also provides that, "*Regardless of the hardness used, the resulting limits must always be protective of water quality criteria under all flow conditions.*" (Davis Order, p. 11)

[1] The SIP does not address how to determine the hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water.
[2] The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used.
[3] 40 C.F.R. §131.3(c)(4)(ii)
[4] 40 C.F.R. §131.38(c)(4)(iii) Table 4
[5] 40 C.F.R. §131.38(c)(2)(i)

The equation describing the total recoverable regulatory criterion, as established in the CTR[1], is as follows:

CTR Criterion = WER x ($e^{m[\ln(H)]+b}$) (Equation 1)

Where:

H = hardness (as $CaCO_3$)[2]

WER = water-effect ratio

m, b = metal- and criterion-specific constants

From September 2011 through August 2014, the upstream receiving water hardness varied from 30 mg/L to 60 mg/L, based on five samples, and the downstream receiving water hardness varied from 30 mg/L to 79 mg/L, based on five samples. During portions of the year, however, Mill Creek is effluent dominated, so the downstream ambient hardness that is consistent with the design low flow conditions is equivalent to the effluent hardness because the effluent is, in effect, the ambient surface water under these regularly occurring conditions. The effluent hardness varied from 36 mg/L to 122 mg/L based on six samples collected between September 2011 through August 2014. ~~For calculating the CTR criteria the downstream ambient hardness has been used. A downstream ambient hardness of 30 mg/L results in CTR criteria that are protective of aquatic life under all flow conditions for all of the CTR metals.~~

For calculating the CTR criteria the downstream ambient hardness has been used. The SIP, CTR, and State Water Board do not require use of the minimum observed ambient hardness in the CTR equations. The hardness used must be consistent with design conditions and protective of water quality criteria under all flow conditions. The minimum effluent hardness of 36 mg/L represents the downstream ambient hardness under the design condition, and the downstream ambient hardness was considered for use in the CTR equations. A downstream ambient hardness of 36 mg/L results in CTR criteria that are protective of aquatic life under all flow conditions.

The Facility discharges both hardness and metals, which must be considered in the downstream ambient receiving water to ensure the criteria are protective under all flow conditions. The tables below examine how the downstream ambient conditions change with varying mixtures of effluent and upstream receiving water. The calculations determine whether or not toxicity could result from one or more metals using the selected design ambient hardness to calculate the CTR criteria.

A simple mass balance (Equation 2) is used to model the ambient concentrations of hardness and metals in the receiving water downstream of the discharge for all possible mixtures of effluent and upstream receiving water under all flow conditions.

$C_{downstream} = C_{upstream} \times (1\text{-}MIX) + C_{effluent} \times (MIX)$ (Equation 2)[3]

Where:

$C_{downstream}$ = Downstream receiving water concentration

[1] 40 C.F.R. § 131.38(b)(2).
[2] For this discussion, all hardness values are in mg/L as $CaCO_3$.
[3] USEPA NPDES Permit Writers' Manual, September 2010 (EPA-833-K-10-001)

$C_{upstream}$ = Upstream receiving water concentration

$C_{effluent}$ = Effluent concentration

MIX = Fraction of effluent in downstream ambient receiving water

For each of several downstream ambient mixtures of upstream receiving water and effluent, the potential for toxicity is examined. The hardness of the mixture is calculated, and the resultant water quality criterion is calculated from the CTR equation. The metals concentration is also calculated for the mixture of upstream receiving water and effluent. If the metals concentration complies with the CTR criterion for that mixture, the ambient mixture is not toxic, and "Yes" is indicated in the far right column. If the metals concentration exceeds the CTR criterion for that mixture, the ambient concentration is toxic, and "No" is indicated in the far right column. The results of these evaluations are summarized in Table F-14.

For this evaluation the following conservative assumptions have been made:

- Upstream receiving water at the lowest observed upstream receiving water hardness (i.e., 30 mg/L)
- No assimilative capacity for each metal in the upstream receiving water (i.e., metals concentration equal to CTR criteria calculated using a hardness of 30 mg/L).
- Effluent hardness at the lowest observed effluent hardness of 36 mg/L.

The following tables (F-6 through F-13) demonstrate that the selected design ambient hardness used to calculate the CTR criteria result in protective criteria for all flow conditions (i.e., the mixed downstream ambient metals concentrations do not exceed the CTR criteria). Table F-14 summarizes the design ambient hardness for each metal.

Table F-6. Copper Evaluation (Design Ambient Hardness = 30 mg/L)

Assumed Upstream Receiving Water Copper Concentration					**3.~~3~~ 9 µg/L[1]**
Copper Chronic Criterion[2]					**3.~~3~~ 9 µg/L**
Mix[6]		**Mixed Downstream Ambient Concentration**			**Complies with CTR Criteria**
		Hardness[3] (mg/L)	**CTR Criteria[4] (µg/L)**	**Copper[5] (µg/L)**	
High Flow	1%	30.1	3.3	3.3	**Yes**
	5%	30.3	3.4	3.~~3~~4	**Yes**
	15%	31.9	3.4	3.~~3~~4	**Yes**
	25%	~~32~~31.5	3.5	3.~~3~~5	**Yes**
	50%	33.0	3.6	3.~~3~~6	**Yes**
	75%	~~35~~34.5	3.8	3.~~3~~8	**Yes**
Low Flow	100%	36.0	3.9	3.~~3~~9	**Yes**

Table F-7. Chromium III Evaluation (Design Ambient Hardness = 30 mg/L)

Assumed Upstream Receiving Water Chromium III Concentration					77 89.6 µg/L[1]
				Chromium III Chronic Criterion[2]	77 89.6 µg/L
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness[3] (mg/L)	CTR Criteria[4] (µg/L)	Chromium III[5] (µg/L)	
High Flow	1%	30.1	77.3	77.3	Yes
	5%	30.3	77.8	77.8	Yes
	15%	31.5	79.1	79.17	Yes
	25%	3231.5	80.4	7780.3	Yes
	50%	33.0	83.5	7783.4	Yes
Low Flow	75%	3534.5	86.7	7786.5	Yes
	100%	36.0	9089.6	7789.6	Yes

Table F-8. Cadmium (Chronic) Evaluation (Design Ambient Hardness = 30 mg/L)

Assumed Upstream Receiving Water Cadmium Concentration					0.961.1 µg/L[1]
				Cadmium Chronic Criterion[2]	0.961.1 µg/L
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness[3] (mg/L)	CTR Criteria[4] (µg/L)	Cadmium[5] (µg/L)	
High Flow	1%	30.1	0.961.0	0.961.0	Yes
	5%	30.3	0.961.0	0.961.0	Yes
	15%	30.91	0.981.0	0.961.0	Yes
	25%	31.52	0.991.0	0.961.0	Yes
	50%	33.0	1.0	0.961.0	Yes
Low Flow	75%	34.5	1.1	0.961.1	Yes
	100%	36.0	1.1	0.961.1	Yes

Table F-9. Cadmium (Acute) Evaluation (Design Ambient Hardness = 30 mg/L)

Assumed Upstream Receiving Water Cadmium Concentration					1.2 43 µg/L[1]
				Cadmium Acute Criterion[2]	1.2 43 µg/L
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness[3] (mg/L)	CTR Criteria[4] (µg/L)	Cadmium[5] (µg/L)	
High Flow	1%	30.1	1.2	1.2	Yes
	5%	30.3	1.2	1.2	Yes
	15%	30.91	1.2	1.2	Yes
	25%	31.52	1.2	1.2	Yes
	50%	33.0	1.3	1.23	Yes
Low Flow	75%	34.5	1.4	1.24	Yes
	100%	36.0	1.4	1.24	Yes

Table F-10. Lead Evaluation (Design Ambient Hardness = 30 mg/L)

Assumed Upstream Receiving Water Lead Concentration					0.~~69~~ ~~87~~ µg/L[1]
Lead Chronic Criterion[2]					0.~~69~~ ~~87~~ µg/L
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness[3] (mg/L)	CTR Criteria[4] (µg/L)	Lead[5] (µg/L)	
High Flow	1%	30.1	0.~~69~~70	0.~~69~~70	Yes
	5%	30.3	0.70	0.~~69~~70	Yes
	15%	30.9~~1~~	0.~~71~~70	0.~~69~~70	Yes
	25%	31.5~~2~~	0.~~73~~70	0.~~69~~70	Yes
	50%	33.0	0.~~78~~80	0.~~69~~80	Yes
Low Flow	75%	34.5	0.~~82~~80	0.~~69~~80	Yes
	100%	36.0	0.~~87~~90	0.~~69~~90	Yes

Table F-11. Nickel Evaluation (Design Ambient Hardness = 30 mg/L)

Assumed Upstream Receiving Water Nickel Concentration					~~19~~ ~~22~~µg/L[1]
Nickel Chronic Criterion[2]					~~19~~ ~~22~~µg/L
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness[3] (mg/L)	CTR Criteria[4] (µg/L)	Nickel[5] (µg/L)	
High Flow	1%	30.1	18.9	18.9	Yes
	5%	30.3	19.0	19.0	Yes
	15%	30.9~~1~~	19.3	19.3	Yes
	25%	31.5~~2~~	~~20~~19.6	19.6	Yes
	50%	33.0	20.4	~~19~~20.4	Yes
Low Flow	75%	34.5	21.2	~~19~~21.2	Yes
	100%	36.0	22.0	~~19~~22.0	Yes

Table F-12. Silver (Acute) Evaluation (Design Ambient Hardness = 30 mg/L)

Assumed Upstream Receiving Water Silver Concentration					0.~~51~~ ~~7~~ µg/L[1]
Silver Acute Criterion[2]					0.~~51~~ ~~7~~ µg/L
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness[3] (mg/L)	CTR Criteria[4] (µg/L)	Silver[5] (µg/L)	
High Flow	1%	30.1	0.~~51~~50	0.~~51~~50	Yes
	5%	30.3	0.~~52~~50	0.~~51~~50	Yes
	15%	30.9~~1~~	0.~~54~~50	0.~~51~~50	Yes
	25%	31.5~~2~~	0.~~56~~60	0.~~51~~60	Yes
	50%	33.0	0.60	0.~~51~~60	Yes
Low Flow	75%	34.5	0.~~65~~70	0.~~51~~70	Yes
	100%	36.0	0.70	0.~~51~~70	Yes

Table F-13. Zinc Evaluation (Design Ambient Hardness = 30 mg/L)

Assumed Upstream Receiving Water Zinc Concentration					**~~43~~ 50.4 µg/L[1]**
Zinc Chronic Criterion[2]					**~~43~~ 50.4µg/L**
Mix[6]		**Mixed Downstream Ambient Concentration**			**Complies with CTR Criteria**
		Hardness[3] (mg/L)	**CTR Criteria[4] (µg/L)**	**Zinc[5] (µg/L)**	
High Flow	1%	30.1	43.3	43.3	**Yes**
	5%	30.3	43.6~~4~~	43.6	**Yes**
	15%	30.9~~1~~	44.3	44.3~~3~~	**Yes**
	25%	31.5~~2~~	45.0	45.0~~3~~	**Yes**
	50%	33.0	46.8~~7~~	46.8~~3~~	**Yes**
	75%	34.5	48.6~~9~~	48.6~~3~~	**Yes**
Low Flow	100%	36.0	50.4	50.4~~43~~	**Yes**

Footnotes for CTR Hardness-dependent Metals Tables (F-6 through F-13)

1 Highest assumed upstream receiving water metals concentration calculated using CTR equation (Equation 1) for chronic/ acute criterion at a hardness of 30 mg/L.

2 CTR Criteria calculated using CTR equation (Equation 1) for chronic/acute criterion at the design ambient hardness for the particular metal (see Table F-13).

3 Mixed downstream ambient hardness is the mixture of the receiving water and effluent hardness at the applicable mixture using Equation 2.

4 Mixed downstream ambient criteria are the chronic/acute criteria calculated using the CTR equation (Equation 1) at the mixed hardness.

5 Mixed downstream ambient metals concentration is the mixture of the receiving water and effluent metals concentrations at the applicable mixture using Equation 2.

6 The mixture percentage represents the fraction of effluent in the downstream ambient receiving water. The mixture ranges from 1% at the high receiving water flow condition, to 100% at the lowest receiving water flow condition (i.e., effluent dominated).

The applicable design ambient hardness and CTR criteria for the hardness-dependent metals for which toxicity in ambient waters does not occur are as follows in Table F-14.

Table F-14. Summary of Design Ambient Hardness and CTR Criteria for Hardness-dependent Metals

CTR Metals	**Design Ambient Hardness (mg/L)**	**CTR Criteria (µg/L, total recoverable)[1]**	
		acute	**chronic**
Copper	30	~~4.5~~5.3	3.~~3~~9
Chromium III	30	~~650~~750	~~77~~90
Cadmium	30	1.~~2~~4	~~0.96~~1.1
Lead	30	~~18~~22	0.~~69~~87
Nickel	30	~~170~~200	~~19~~22
Silver	30	0.~~51~~70	--
Zinc	30	~~43~~50	~~43~~50

1 Metal criteria rounded to two significant figures in accordance with the CTR.

3. Determining the Need for WQBEL's

a. **Discharge Point 001 – Process Wastewater**

i. **Constituents with No Reasonable Potential.** WQBEL's are not included in this Order for constituents that do not demonstrate reasonable potential (i.e., constituents were not detected in the effluent or receiving water); however, monitoring for those pollutants is established in this Order as required by the SIP. If the results of effluent monitoring demonstrate reasonable potential, this Order may be reopened and modified by adding an appropriate effluent limitation.

Most constituents with no reasonable potential are not discussed in this Order. However, the following constituents were found to have no reasonable potential after assessment of the data:

(a) **pH**

(1) **WQO.** The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the "…*pH shall not be depressed below 6.5 nor raised above 8.5*."

(2) **RPA Results.** The effluent pH ranged from 6.04 to 7.7 based on 10 samples collected between September 2011 through August 2014. The upstream receiving water pH ranged from 6.08 to 7.54 based on 10 samples collected between September 2011 through August 2014. As shown in the table below, although the effluent is at times below the Basin Plan water quality objective, the receiving water is in compliance with the objectives. The only instance where the downstream receiving water was out of compliance was on 28 November 2012, at which time the upstream receiving water was already below the objective of 6.5.

Table F-15. Effluent and Receiving Water Data for pH

Date	EFF-001	RSW-001	RSW-002
21 January 2012	7.14	7.00	7.06
12 March 2012	7.40	7.54	7.36
19 March 2012	7.70	7.04	7.12
26 March 2012	7.04	7.15	7.18
26 April 2012	7.61	7.24	7.35
28 November 2012	**6.04**	**6.08**	**6.11**
5 December 2012	6.90	6.91	6.96
22 December 2012	6.58	6.65	6.63
3 March 2014	7.4	7.14	7.66
29 March 2014	7.21	7.39	7.32

Based on the effluent and receiving water data, the Central Valley Water Board finds that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of the Basin Plan water quality objectives for pH. Therefore, this Order does not include WQBEL's for pH. However, as discussed in section IV.B.2 of this Fact Sheet, this Order includes technology-based minimum and maximum effluent limitations of 6.0 and 9.0, respectively, based on the applicable ELG's.

(b) **Salinity**

(1) **WQO.** The Basin Plan contains a chemical constituent objective that incorporates state MCL's, contains a narrative objective, and contains numeric water quality objectives for certain specified water bodies for electrical conductivity, total dissolved solids, sulfate, and chloride. The U.S. EPA Ambient Water Quality Criteria for Chloride recommends acute and chronic criteria for the protection of aquatic life. There are no U.S. EPA water quality criteria for the protection of aquatic life for electrical conductivity, total dissolved solids, and sulfate. Additionally, there are no U.S. EPA numeric water quality criteria for the protection of agricultural, live stock, and industrial uses. Numeric values for the protection of these uses are typically based on site specific conditions and evaluations to determine the appropriate constituent threshold necessary to interpret the narrative chemical constituent Basin Plan objective. The Central Valley Water Board must determine the applicable numeric limit to implement the narrative objective for the protection of agricultural supply. The Central Valley Water Board is currently implementing the CV-SALTS initiative to develop a Basin Plan Amendment that will establish a salt and nitrate Management Plan for the Central Valley. Through this effort the Basin Plan will be amended to define how the narrative water quality objective is to be interpreted for the protection of agricultural use. All studies conducted through this Order to establish an agricultural limit to implement the narrative objective will be reviewed by and consistent with the efforts currently underway by CV-SALTS.

Table F-16.Salinity Water Quality Criteria/Objectives

Parameter	Agricultural WQ Objective[1]	Secondary MCL[2]	U.S. EPA NAWQC	Effluent	
				Average[3]	Maximum
EC (µmhos/cm)	Varies[2]	900, 1600, 2200	N/A	271	357
TDS (mg/L)	Varies	500, 1000, 1500	N/A	--	--
Sulfate (mg/L)	Varies	250, 500, 600	N/A	--	--
Chloride (mg/L)	Varies	250, 500, 600	860 1-hr 230 4-day	--	--

1 Narrative chemical constituent objective of the Basin Plan. Procedures for establishing the applicable numeric limitation to implement the narrative objective can be found in the Policy for Application of Water Quality, Chapter IV, Section 8 of the Basin Plan. However, the Basin Plan does not require improvement over naturally occurring background concentrations. In cases where the natural background concentration of a particular constituent exceeds an applicable water quality objective, the natural background concentration will be considered to comply with the objective.

2 The Secondary MCL's are stated as a recommended level, upper level, and a short-term maximum level.

3 Maximum calendar annual average.

(i) **Chloride.** The Secondary MCL for chloride is 250 mg/L, as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

Electrical Conductivity. The Secondary MCL for electrical conductivity is 900 µmhos/cm as a recommended level, 1600 µmhos/cm as an upper level, and 2200 µmhos/cm as a short-term maximum. Order R5-2008-0090 included effluent limitations for electrical conductivity based on the agricultural water goal of 700 µmhos/cm and the Secondary MCL of 900 µmhos/cm.

(iii) **Sulfate.** The Secondary MCL for sulfate is 250 mg/L as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

(iv) **Total Dissolved Solids.** The Secondary MCL for total dissolved solids is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum.

(2) **RPA Results**

Chloride. Effluent and upstream receiving water data for chloride is not available.

Electrical Conductivity. A review of the Discharger's monitoring reports shows a maximum observed annual average effluent electrical conductivity of 271 µmhos/cm, with a range from 97.68 µmhos/cm to 357 µmhos/cm based on 10 samples collected between September 2011 and August 2014. These levels do not exceed the Secondary MCL. The maximum observed annual average background receiving water electrical conductivity was 92 µmhos/cm.

Sulfate. Effluent and upstream receiving water data for sulfate is not available.

Total Dissolved Solids. Effluent and upstream receiving water data for total dissolved solids is not available.

Based on the relatively low reported salinity, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion of water quality objectives for salinity and the effluent limitations for electrical conductivity have not been retained in this Order. In order to ensure that the Discharger will continue to control the discharge of salinity, this Order includes a requirement to continue to implement a salinity evaluation and minimization plan. Removal of these effluent limitations is in accordance with federal antibacksliding regulations (see section IV.D.3 of the Fact Sheet).

(c) **Iron**

(1) **WQO.** The Secondary MCL – Consumer Acceptance Limit for iron is 300 µg/L, which is used to implement the Basin Plan's chemical constituent objective for the protection of municipal and domestic supply.

(2) **RPA Results.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Iron is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the

Central Valley Water Board has used its judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent. The most stringent objective is the Secondary MCL, which is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCL's are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. To be consistent with how compliance with the standards is determined, the RPA was conducted based on the calendar year annual average effluent iron concentrations.

Since the process wastewater discharge from the Facility is short-term and infrequent, the discharge does not have reasonable potential to cause or contribute to an exceedance with the Secondary MCL for iron.

ii. **Constituents with Reasonable Potential.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for copper, ~~iron,~~ lead, settleable solids, and zinc. WQBEL's for these constituents are included in this Order. A summary of the RPA is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

(a) **Copper**

(1) **WQO.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for copper. These criteria for copper are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA conversion factors were used for calculating the criteria. As described in section IV.C.2.e of this Fact Sheet, the applicable acute (1-hour average) and chronic (4-day average) criteria for copper are ~~4.5~~5.3 µg/L and 3.~~3~~ 9 µg/L, respectively, as total recoverable.

(2) **RPA Results.** The maximum effluent concentration (MEC) for copper was 24.5 µg/L (as total recoverable) based on six samples collected between September 2011 and August 2014. The maximum observed upstream receiving water concentration was 4.1 µg/L (as total recoverable) based on five samples collected between September 2011 and August 2014. Therefore, copper in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life.

(3) **WQBEL's.** This Order contains a final average monthly effluent limitation (AMEL) and MDEL for copper of 2.~~2~~ 6 µg/L and ~~4.5~~5.3 µg/L, respectively, based on the CTR criterion for the protection of freshwater aquatic life.

(4) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 24.5 µg/L is greater than applicable

WQBEL's. Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. However, as described in Section II.E above, the Discharger has indicated that the Facility is capable of complying with the requirements of this Order and did not request a compliance schedule be included in a separate enforcement order.

~~(b) **Iron**~~

~~(1) **WQO.** The Secondary MCL – Consumer Acceptance Limit for iron is 300 µg/L, which is used to implement the Basin Plan's chemical constituent objective for the protection of municipal and domestic supply.~~

~~(2) **RPA Results.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Iron is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used its judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent. The most stringent objective is the Secondary MCL, which is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCL's are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. To be consistent with how compliance with the standards is determined, the RPA was conducted based on the calendar year annual average effluent iron concentrations.~~

~~The maximum observed annual average iron concentration in the effluent was 1,468 µg/L based on five samples collected between September 2011 and August 2014. Therefore, iron in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Secondary MCL.~~

~~(3) **WQBEL's.** This Order contains an annual average effluent limitation for iron of 300 µg/L based on the Basin Plan's narrative chemical constituents objective for the protection of the MUN beneficial use.~~

~~(4) **Plant Performance and Attainability.** Analysis of the effluent data shows that the maximum observed annual average effluent iron concentration of 1,468 µg/L is greater than applicable WQBEL. Based on the sample results for the effluent, the limitation appears to put the Discharger in immediate non-compliance. However, the Discharger has indicated that the Facility is capable of complying with the requirements of this Order and did not request a compliance schedule be included in a separate enforcement order.~~

~~(c)~~(b) **Lead**

(1) **WQO.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for lead. These criteria for lead are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default

U.S. EPA conversion factors were used for calculating the criteria. As described in section IV.C.2.e of this Fact Sheet, the applicable acute (1-hour average) and chronic (4-day average) criteria for lead are ~~18~~ 22 µg/L and 0.~~69~~ 87 µg/L, respectively, as total recoverable.

(2) **RPA Results.** The MEC for lead was 4.9 µg/L (as total recoverable) based on six samples collected between September 2011 and August 2014. The maximum observed upstream receiving water concentration was 1.4 µg/L (as total recoverable) based on five samples collected between September 2011 and August 2014. Therefore, lead in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life.

(3) **WQBEL's.** This Order contains a final AMEL and MDEL for lead of 0.~~56~~ 74 µg/L and 1.~~1~~ 5 µg/L, respectively, based on the CTR criterion for the protection of freshwater aquatic life.

(4) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 4.9 µg/L is greater than applicable WQBEL's. Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. However, as described in Section II.E above, the Discharger has indicated that the Facility is capable of complying with the requirements of this Order and did not request a compliance schedule be included in a separate enforcement order.

~~(d)~~(c) **Settleable Solids**

(1) **WQO.** For inland surface waters, the Basin Plan states that "[w]*ater shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses*."

(2) **RPA Results.** Log deck runoff contains bark, sawdust, tannins and lignins, dissolved organics, and settleable and suspended solids. Therefore, the Central Valley Water Board finds that the discharge of process wastewater from the Facility has a reasonable potential to cause or contribute to an excursion above the Basin Plan's narrative objective for settleable material.

(3) **WQBEL's.** Consistent with Order R5-2008-0090, this Order contains an AMEL of 0.1 ml/L and an MDEL of 0.2 ml/L for settleable solids. These effluent limitations are based on what can reasonably be achieved in a well-designed, constructed, and operated settling basin for the types of contaminants encountered in the timber industry (wood debris and soil particles).

(4) **Plant Performance and Attainability.** Settleable solids were not detected in the effluent based on seven samples collected between September 2011 and August 2014. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

~~(e)~~(d) **Zinc**

(1) **WQO.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for zinc. These criteria for zinc are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA conversion factors were used for calculating the criteria. As described in section IV.C.2.e of this Fact Sheet, the applicable acute (1-hour average) and chronic (4-day average) criteria for zinc are both ~~43~~ 50 µg/L, as total recoverable.

(2) **RPA Results.** The MEC for zinc was 108 µg/L (as total recoverable) based on three samples collected between September 2011 and August 2014. The maximum observed upstream receiving water concentration was 3.1 µg/L (as total recoverable) based on one sample collected between September 2011 and August 2014. Therefore, zinc in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life.

(3) **WQBEL's.** This Order contains a final AMEL and MDEL for zinc of ~~21~~ 25 µg/L and ~~43~~ 50 µg/L, respectively, based on the CTR criterion for the protection of freshwater aquatic life.

(4) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 108 µg/L is greater than applicable WQBEL's. Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. However, as described in Section II.E above, the Discharger has indicated that the Facility is capable of complying with the requirements of this Order and did not request a compliance schedule be included in a separate enforcement order.

b. **Discharge Point SW-001 – Industrial Storm Water**

This Order regulates the discharge of storm water from industrial activity to surface water. For discharges of industrial storm water (see definition in Attachment A) from the 53.6-acre log deck area, the SIP provisions for establishment of effluent limitations for CTR constituents are not applicable. However, due to the complexity of the Facility and unique threats to water quality, the Central Valley Water Board has elected to regulate discharges of industrial storm water from the 53.6-acre log deck area with an individual NPDES permit. A review was conducted of effluent and upstream and downstream receiving water data collected during the term of Order R5-2008-0090 and this data was compared with applicable water quality objectives and/or criteria to determine whether WQBEL's are necessary to protect water quality. In addition, effluent data has also been compared to storm water action levels to assess whether the storm water discharge could potentially impair, or contribute to impairing water quality or affect human health from ingestion of water or fish. The action levels are not effluent limits and should not be interpreted as such; they are merely levels which the Central Valley Water Board has used to determine if storm water discharge from a given facility merits further monitoring to ensure that the facility has been successful in implementing the SWPPP.

The Discharger did not complete measures to separate process wastewater from industrial storm water at the Facility until Spring 2015; therefore, monitoring data for industrial storm water from the log deck area is not available. Therefore, where

applicable, the Central Valley Water Board has considered monitoring data for process wastewater commingled with industrial storm water collected during Order R5-2008-0090. As the industrial storm water is expected to be of higher quality than the process wastewater, and in the absence of representative monitoring data, this represents a conservative approach for ensuring protection of the receiving water for discharges of industrial storm water. Effluent and receiving water monitoring data, applicable water quality criteria and objectives, and storm water action levels have been provided in Fact Sheet section II.C. and Attachment G.

Most constituents are not discussed in this Order, as the storm water discharge is well below the pollutant action levels and/or the water quality objectives/criteria for these constituents. However, the following constituents are notable for discussion upon assessment of the data.

i. **Chemical Oxygen Demand (COD).** COD is the amount of dissolved oxygen in water consumed by the chemical breakdown of organic and inorganic matter (i.e., COD is not a specific component in a discharge). A high COD value indicates elevated quantities of pollutants in runoff, especially carbon. The storm water benchmark value in U.S. EPA's MSGP for General Sawmills and Planing Mills (SIC code 2421) for COD is 120 mg/L.

   Effluent COD ranged from 9 mg/L to 366 mg/L in two samples collected between September 2011 and August 2014. Upstream and downstream receiving water monitoring data for COD is not available. Based on the levels of COD in the effluent and the nature of runoff from sawmill operations, a storm water action level of 120 mg/L for COD has been established in this Order based on the benchmark in U.S. EPA's MSGP. If exceeded, the Discharger is required to evaluate and update, if necessary, the Facility's BMP's in order to reduce the COD in the storm water discharge.

ii. **Copper.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for copper. These criteria for copper are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA conversion factors were used for calculating the criteria. Due to the short duration, periodic nature of storm events and corresponding intermittent storm water discharges from the Facility, the CTR freshwater acute criterion was selected as the action level for evaluating the impacts of the storm water discharge.

   As shown in the following table, based on paired copper and hardness data, the downstream receiving water total copper concentration exceeded the CTR acute criterion during the 26 April 2012 discharge event. Therefore, a storm water action level for copper of 6.6 µg/L has been established in this Order based on the CTR acute criterion calculated using the average receiving water hardness of 45 mg/L, at which the Discharger is required to evaluate and update, if necessary, the Facility's BMP's in order to reduce copper in the storm water discharge.

Table F-17. Effluent and Receiving Water Data for Copper

Sampling Date	Copper, Total Recoverable Results (ug/L)			Hardness Results (mg/L)		CTR Acute Criterion, Total (ug/L)	
	EFF-001	RSW-001	RSW-002	RSW-001	RSW-002	RSW-001	RSW-002
21 January 2012	16.1	1.2	1.3	--	--	--	--
12 March 2012	3.8	0.8	0.6	60	79	8.7	11.2

26 April 2012	**9.9**	4.1	**4.6**	30	30	4.5	4.5
28 November 2012	**24.5**	0.9	1.1	46	50	6.7	7.3
5 December 2012	5.9	--	--	34	36	5.1	5.3
3 March 2014	6.4	--	--	50	52	7.3	7.6

~~iii. **Iron.** U.S. EPA developed National Recommended Ambient Water Quality Criteria (NAWQC) for the protection of freshwater aquatic life for iron. The recommended 4-day average (chronic) criterion is 1,000 µg/L. The Secondary MCL – Consumer Acceptance Limit for iron is 300 µg/L. The Basin Plan water quality objectives for chemical constituents requires that water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the MCL's specified in Title 22 of the California Code of Regulations.~~

~~The Discharger sampled the effluent five times and the receiving water (both upstream and downstream) three times between September 2011 and August 2014 for total recoverable iron. The average annual total recoverable iron concentrations for the storm water discharge and the receiving water are summarized in the table below.~~

~~Table F-18. Effluent and Receiving Water Data for Iron~~

~~Sampling Date~~	~~EFF-001~~		~~RSW-001~~		~~RSW-002~~	
	~~Result (µg/L)~~	~~Annual Average (µg/L)~~	~~Result (µg/L)~~	~~Annual Average (µg/L)~~	~~Result (µg/L)~~	~~Annual Average (µg/L)~~
~~21 January 2012~~	~~390~~	~~1,468~~	~~242~~	~~710~~	~~415~~	~~1,004~~
~~12 March 2012~~	~~103~~		~~338~~		~~736~~	
~~26 April 2012~~	~~2,920~~		~~1,550~~		~~1,860~~	
~~5 December 2012~~	~~2,460~~		~~--~~		~~--~~	
~~3 March 2014~~	~~1,830~~	~~1,830~~	~~--~~	~~--~~	~~--~~	~~--~~

~~Based on the data reported for total recoverable iron by the Discharger, the 2012 average annual iron concentration in the downstream receiving water limitation exceeded the Secondary MCL of 300 µg/L and the freshwater aquatic life chronic criterion of 1,000 µg/L. Therefore, a storm water action level for iron has been established in this Order based on the NAWQC chronic criterion. If exceeded, the Discharger is required to evaluate and update, if necessary, the Facility's BMP's in order to reduce iron in the storm water discharge.~~

~~iv.~~iii. **pH.** The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the "…*pH shall not be depressed below 6.5 nor raised above 8.5.*" As discussed in section IV.C.3.a.i of this Fact Sheet, based on effluent and receiving water data, the Central Valley Water Board finds that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of the Basin Plan water quality objectives for pH. Therefore, this Order does not include WQBEL's or action levels for pH. However, as discussed in section IV.B.2 of this Fact Sheet, this Order includes technology-based minimum and maximum effluent limitations of 6.0 and 9.0, respectively, based on BPJ for discharges of industrial storm water.

~~v.~~iv. **Settleable Solids.** For inland surface waters, the Basin Plan states that "[w]*ater shall not contain substances in concentrations that result in the*

deposition of material that causes nuisance or adversely affects beneficial uses." Consistent with Order R5-2008-0090, this Order contains an AMEL and MDEL of 0.1 ml/L and 0.2 ml/L, respectively. The settleable solids limits in this Order are based on what can reasonably be achieved in a well-designed, constructed and operated settling basin for the types of contaminants encountered in the timber industry (wood debris and soil particles).

~~vi.~~v. **Tannins and Lignins.** For inland surface waters, the Basin Plan states that "[w]*ater shall be free of discoloration that causes nuisance or adversely effects beneficial uses*." No numeric criteria or objectives for tannins and lignins have been developed. Tannins and lignins are generated from wood products and could cause discoloration or a pH shift of the effluent or receiving water. Some studies have indicated that elevated levels of tannins and lignins are harmful to aquatic life.

Effluent tannins and lignins ranged from 0.58 mg/L to 49.2 mg/L in five samples collected between September 2011 and August 2014. Upstream and downstream receiving water monitoring data for tannins and lignins is not available. Based on the levels of tannins and lignins in the effluent and the nature of runoff from sawmill operations, a storm water action level of 30 mg/L for tannins and lignins has been established in this Order. If exceeded, the Discharger is required to evaluate and update, if necessary, the Facility's BMP's in order to reduce tannins and lignins in the storm water discharge.

~~vii.~~vi. **Total Suspended Solids (TSS).** For inland surface waters, the Basin Plan states, "[w]*aters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses*." The storm water benchmark value in U.S. EPA's MSGP for General Sawmills and Planing Mills (SIC code 2421) for TSS is 100 mg/L.

Effluent TSS ranged from 2 mg/L to 96 mg/L in four samples collected between September 2011 and August 2014. Upstream and downstream receiving water monitoring data for TSS is not available. Based on the levels of TSS in the effluent and the nature of runoff from sawmill operations, a storm water action level of 100 mg/L for TSS has been established in this Order based on the benchmark in U.S. EPA's MSGP, at which the Discharger is required to evaluate and update, if necessary, the Facility's BMP's in order to reduce the TSS in the storm water discharge.

~~viii.~~vii. **Zinc.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for zinc. These criteria for zinc are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA conversion factors were used for calculating the criteria. Due to the short duration, periodic nature of storm events and corresponding intermittent storm water discharges from the Facility, the CTR freshwater acute criterion was selected as the action level for evaluating the impacts of the storm water discharge.

As shown in the table below, limited receiving water data for zinc is available to determine the impacts of the storm water discharge on the receiving water. However, based on the high levels of zinc in the effluent, a storm water action level for zinc of 61 µg/L has been established in this Order based on the CTR acute criterion calculated using the average receiving water hardness of 45 mg/L. If exceeded, the Discharger is required to evaluate and update, if

necessary, the Facility's BMP's in order to reduce zinc in the storm water discharge.

Table F-~~19.~~18. Effluent and Receiving Water Data for Zinc

Sampling Date	Zinc, Total Recoverable Results (ug/L)			Hardness Results (mg/L)		CTR Acute Criterion, Total (ug/L)	
	EFF-001	RSW-001	RSW-002	RSW-001	RSW-002	RSW-001	RSW-002
21 January 2012	8	3.1	7.7	--	--	--	--
12 March 2012	--	--	--	60	79	78	98
26 April 2012	--	--	--	30	30	43	43
28 November 2012	**108**	--	--	46	50	62	67
5 December 2012	--	--	--	34	36	48	50
3 March 2014	44.8	--	--	50	52	67	69

4. WQBEL Calculations

a. This Order includes WQBEL's for copper, ~~iron,~~ lead, settleable solids, and zinc for discharges of process wastewater at Discharge Point 001 and for settleable solids for discharges of industrial storm water at Discharge Point SW-001. The general methodology for calculating WQBEL's based on the different criteria/objectives is described in subsections IV.C.4.b through e, below. See Attachment H for the WQBEL calculations.

b. **Effluent Concentration Allowance.** For each water quality criterion/objective, the ECA is calculated using the following steady-state mass balance equation from Section 1.4 of the SIP:

$ECA = C + D(C - B)$ *where C>B, and*
$ECA = C$ *where C≤B*

where:

ECA = effluent concentration allowance
D = dilution credit
C = the priority pollutant criterion/objective
B = the ambient background concentration.

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples. For ECA's based on MCL's, which implement the Basin Plan's chemical constituents objective and are applied as annual averages, an arithmetic mean is also used for B due to the long-term basis of the criteria.

c. **Basin Plan Objectives and MCL's.** For WQBEL's based on site-specific numeric Basin Plan objectives or MCL's, the effluent limitations are applied directly as the ECA as either an MDEL, AMEL, or average annual effluent limitations, depending on the averaging period of the objective.

d. **Aquatic Toxicity Criteria.** WQBEL's based on acute and chronic aquatic toxicity criteria are calculated in accordance with Section 1.4 of the SIP. The ECA's are converted to equivalent long-term averages (i.e., LTA_{acute} and $LTA_{chronic}$) using statistical multipliers and the lowest LTA is used to calculate the AMEL and MDEL using additional statistical multipliers.

e. **Human Health Criteria.** WQBEL's based on human health criteria, are also calculated in accordance with Section 1.4 of the SIP. The AMEL is set equal to ECA and a statistical multiplier was used to calculate the MDEL.

$$AMEL = mult_{AMEL}\left[\min\left(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic}\right)\right]$$

$$MDEL = mult_{MDEL}\left[\min\left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}}\right)\right]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}}\right) AMEL_{HH}$$

where:

$mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
$mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
M_A = statistical multiplier converting acute ECA to LTA_{acute}
M_C = statistical multiplier converting chronic ECA to $LTA_{chronic}$

Summary of Water Quality-Based Effluent Limitations
Discharge Points 001 and SW-001

Table F-~~20.~~19. Summary of Water Quality-Based Effluent Limitations – Process Wastewater

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Priority Pollutants					
Copper, Total Recoverable	µg/L	~~2.2~~2.6	~~4.5~~5.3	--	--
Lead, Total Recoverable	µg/L	~~0.56~~0.74	~~1.1~~1.5	--	--
Zinc, Total Recoverable	µg/L	~~21~~25	~~43~~50	--	--
Non-Conventional Pollutants					
~~Iron, Total Recoverable~~	~~µg/L~~	~~300[1]~~	~~--~~	~~--~~	~~--~~
Settleable Solids	ml/L	0.1	0.2	--	--

[1] Applied as an annual average effluent limitation.

Table F-~~21.~~20. Summary of Water Quality-Based Effluent Limitations – Industrial Storm Water

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Non-Conventional Pollutants					
Settleable Solids	ml/L	0.1	0.2	--	--

5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E section V.). This Order also contains effluent limitations for acute toxicity and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at page III-8.00) The Basin Plan also states that, *"…effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate…*".

For priority pollutants, the SIP dictates the procedures for conducting the RPA. Acute toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Therefore, due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional

judgment in determining the appropriate method for conducting the RPA. U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters).*" Acute toxicity effluent limits are required to ensure compliance with the Basin Plan's narrative toxicity objective.

U.S. EPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "*In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc.*" Consistent with Order R5-2008-0090, effluent limitations for acute toxicity have been included in this Order for discharges of process wastewater and industrial storm water as follows:

Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay ---------- 70%
Median for any three consecutive bioassays ---------- 90%

b. **Chronic Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at page III-8.00.) The results of chronic WET testing performed by the Discharger in January 2012 and November 2012 are summarized in the following table.

Table F-~~22.~~21. Whole Effluent Chronic Toxicity Testing Results

Date	Fathead Minnow *Pimephales promelas*		Water Flea *Ceriodaphnia dubia*		Green Algae *Selenastrum capricornutum*
	Survival (TUc)	Growth (TUc)	Survival (TUc)	Reproduction (TUc)	Growth (TUc)
January 2012	1	1	1	1	1
November 2012	1	2	1	2	1

No dilution has been granted for the chronic condition. Therefore, chronic toxicity testing results exceeding 1 chronic toxicity unit (TUc) demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Based on chronic WET testing performed by the Discharger in January 2012 and November 2012, the discharge of process wastewater has reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective. Therefore, this Order includes a narrative chronic toxicity effluent limitation for process wastewater

discharges. In addition, this Order includes a chronic toxicity action level of 1 TUc for discharges of industrial storm water. If exceeded, the Discharger is required to evaluate and update, if necessary, the Facility's BMP's in order to reduce chronic toxicity in the storm water discharge.

The Monitoring and Reporting Program of this Order requires annual chronic WET monitoring for demonstration of compliance with the narrative toxicity objective. In addition to WET monitoring, the Special Provision in section VI.C.2.a of the Order includes a numeric toxicity monitoring trigger, requirements for accelerated monitoring, and requirements for Toxicity Reduction Evaluation (TRE) or Toxicity Evaluation Study initiation if toxicity is demonstrated.

Numeric chronic WET effluent limitations have not been included in this Order. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region[1] that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, "*In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits.*" The process to revise the SIP is currently underway. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision it is infeasible to develop numeric effluent limitations for chronic toxicity. Therefore, this Order requires that the Discharger meet best management practices for compliance with the Basin Plan's narrative toxicity objective, as allowed under 40 C.F.R. section 122.44(k).

To ensure compliance with the Basin Plan's narrative toxicity objective, the Discharger is required to conduct chronic WET testing, as specified in the Monitoring and Reporting Program (Attachment E section V.). Furthermore, the Special Provision contained at VI.C.2.a. of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates toxicity exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a TRE in accordance with an approved TRE workplan, or conduct a Toxicity Evaluation Study approved by the Executive Officer. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to

[1] In the Matter of the Review of Own Motion of Waste Discharge Requirements Order Nos. R4-2002-0121 [NPDES No. CA0054011] and R4-2002-0123 [NPDES NO. CA0055119] and Time Schedule Order Nos. R4-2002-0122 and R4-2002-0124 for Los Coyotes and Long Beach Wastewater Reclamation Plants Issued by the California Regional Water Quality Control Board, Los Angeles Region SWRCB/OCC FILES A-1496 AND 1496(a)

perform accelerated chronic toxicity monitoring, as well as, the threshold to initiate a TRE if effluent toxicity has been demonstrated.

D. Final Effluent Limitation Considerations

1. Mass-based Effluent Limitations

40 C.F.R. section 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 C.F.R. section 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order does not include effluent limitations expressed in terms of mass. Pursuant to the exceptions to mass limitations provided in 40 C.F.R. section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCL's) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

2. Averaging Periods for Effluent Limitations

For non-continuous discharges, such as those from the Facility, 40 C.F.R. section 122.45(e) states:

> *(e) Non-continuous discharges. Discharges which are not continuous, as defined in §122.2, shall be particularly described and limited, considering the following factors, as appropriate:*
>
> *(1) Frequency (for example, a batch discharge shall not occur more than once every 3 weeks);*
>
> *(2) Total mass (for example, not to exceed 100 kilograms of zinc and 200 kilograms of chromium per batch discharge);*
>
> *(3) Maximum rate of discharge of pollutants during the discharge (for example, not to exceed 2 kilograms of zinc per minute); and*
>
> *(4) Prohibition or limitation of specified pollutants by mass, concentration, or other appropriate measure (for example, shall not contain at any time more than 0.1 mg/1 zinc or more than 250 grams (1⁄4 kilogram) of zinc in any discharge).*

Thus, the Central Valley Water Board is not restricted to a particular averaging period for non-continuous discharges. This Order implments AMEL's and MDEL's for priority pollutants, consistent with the procedures in the SIP. For ~~COD,~~ settleable solids~~,~~ and TSS, this Order includes AMEL's (settleable solids only) and MDEL's, consistent with the effluent limitations in Order R5-2008-0090.

~~For iron, which is based on the Secondary MCL, this Order includes an annual average effluent limitation. The Secondary MCL's are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. To be consistent with how compliance with the standards is determined, the effluent limitation is established as a calendar year annual average limitation.~~

3. Satisfaction of Anti-Backsliding Requirements

The CWA specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in CWA sections 402(o) or 303(d)(4), or, where applicable, 40 C.F.R. section 122.44(l).

The effluent limitations in this Order are at least as stringent as the effluent limitations in Order R5-2008-0090, with the exception of effluent limitations for electrical conductivity. The effluent limitations for electrical conductivity are less stringent than those in Order R5-2008-0090. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

a. **CWA section 402(o)(1) and 303(d)(4).** CWA section 402(o)(1) prohibits the establishment of less stringent water quality-based effluent limits "*except in compliance with Section 303(d)(4).*" CWA section 303(d)(4) has two parts: paragraph (A) which applies to nonattainment waters and paragraph (B) which applies to attainment waters.

   i. For waters where standards are not attained, CWA section 304(d)(4)(A) specifies that any effluent limit based on a TMDL or other WLA may be revised only if the cumulative effect of all such revised effluent limits based on such TMDL's or WLAs will assure the attainment of such water quality standards.

   ii. For attainment waters, CWA section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy.

   Mill Creek is considered an attainment water for electrical conductivity because the receiving water is not listed as impaired on the 303(d) list for this constituent[1]. As discussed in section IV.D.4, below, removal of the effluent limitations complies with federal and state antidegradation requirements. Thus, removal of the effluent limitations for electrical conductivity from Order R5-2008-0090 meets the exception in CWA section 303(d)(4)(B).

b. **CWA section 402(o)(2).** CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations. CWA 402(o)(2)(B)(i) allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

   As described further in section IV.C.3.a of this Fact Sheet, updated information that was not available at the time Order R5-2008-0090 was issued indicates that electrical conductivity does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives in the receiving water. The updated information that supports the relaxation of effluent limitations for electrical conductivity includes the following:

   i. **Electrical Conductivity.** Effluent and upstream receiving water monitoring data collected between September 2011 and August 2014 indicates that electrical conductivity in the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of the agricultural water goal or Secondary MCL.

   Thus, removal of the effluent limitations for electrical conductivity from Order R5-2008-0090 is in accordance with CWA section 402(o)(2)(B)(i), which allows for the

[1] "The exceptions in Section 303(d)(4) address both waters in attainment with water quality standards and those not in attainment, i.e. waters on the section 303(d) impaired waters list." State Water Board Order WQ 2008-0006, Berry Petroleum Company, Poso Creek/McVan Facility.

removal of effluent limitations based on information that was not available at the time of permit issuance.

4. Antidegradation Policies

a. **Surface Water.** This Order does not allow for an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is not necessary. The Order requires compliance with applicable federal technology-based standards and with WQBEL's where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. The permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

This Order removes effluent limitations for electrical conductivity based on updated monitoring data demonstrating that the effluent does not cause or contribute to an exceedance of the applicable water quality criteria or objectives in the receiving water. The removal of WQBEL's for electrical conductivity will not result in an increase in pollutant concentration or loading, a decrease in the level of treatment or control, or a reduction of water quality. Therefore, the Central Valley Water Board finds that the relaxation of the effluent limitations does not result in an increase in pollutants or any additional degradation of the receiving water. Thus, the removal of effluent limitations is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.

b. **Groundwater.** The Discharger utilizes log yard settling ponds to provide treatment through settling of the process water from the log-deck sprinkling run-off. PND-2 has a total volume capacity of about 2.6 million gallons, and it contains first flush storm water from approximately 53.6-acre area of the log-deck (i.e., process water), and industrial storm water (i.e., post first flush storm water). PND-5 is the Retention Pond and contains process water (i.e., first flush storm water from the log deck and recycled log sprinkling water from the log deck). Ponds PND-4 and PND-5 are not lined. Based on groundwater monitoring data from 2010 to 2012, it appears the downgradient groundwater is degraded for some constituents. The annual average concentrations for total dissolved solids (TDS), electrical conductivity (EC), arsenic, and manganese are increased in downgradient wells as compared to the background groundwater (Figures F-1, F-2, F-3, and F-4). The groundwater monitoring well layout is shown in Attachment B, Figure B-2. Based on groundwater elevations for each of the downgradient monitoring wells and background montoring wells (Figure F-5 and Table F-23), the groundwater flow is to the northwest.

Pond data is unavailable for these constituents to verify whether the Discharger has caused the degradation. However, effluent data for discharges to Mill Creek are shown in the Table F-24 below. Percolation from the ponds may be resulting in an increase in the concentration of these constituents in groundwater. The increase in the concentration of these constituents in groundwater must be consistent with Resolution No. 68-16. Any increase in pollutant concentrations in groundwater must be shown to be necessary to allow wastewater utility service necessary to accommodate housing and economic expansion in the area and must be consistent with maximum benefit to the people of the State of California. Some degradation of groundwater by the Discharger is consistent with Resolution No. 68-16 provided that:

i. the degradation is limited in extent;

ii. the degradation after effective source control, treatment, and control is limited to waste constituents typically encountered in municipal wastewater as specified in the groundwater limitations in this Order;

iii. the Discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures; and

iv. the degradation does not result in water quality less than that prescribed in the Basin Plan.

The Discharger has made several improvements to reduce impacts to groundwater. During the term of Order R5-2008-0090. The Discharger installed four sand filters to allow for reuse of process water from the Retention Pond for Cogen facility operation and redirection of Cogen plant process waters to the lined fire pond. This has eliminated all cogeneration process water from the unlined Retention Pond. Industrial storm water from areas at the Facility outside the log deck has been separated from log deck storm water and is directed to Pond 4, which allows the isolation and discharge industrial storm water under the General Industrial Permit. The Biomass fuel storage building was enlarged to reduce the amount of biomass material entrained in storm water run-off and removed the storm watercourse that was adjacenet to the biomass fuels storage building, thus reducing fine sediment in storm water run-off. The Discharger constructed an ash storage building to reduce the likelihood of ash becoming entrained in storm water if ash were to be stored on site (ash is currently direct loaded and rarely stored on site). The ash conveyors were reconfigured to deliver ash directly into a hopper and transport trucks, which reduced the likelihood of ash entering in storm water. Additionally, the Discharger conducted soils investigation of the 51-acre property, including test pits, percolation testing, and shallow water-level measurement via piezometers. These operational changes ~~and~~, Facility upgrades, and soil investigation studies are expected to reduce the water quality impacts to the underlying groundwater.

On 3 March 2009, the Discharger submitted a groundwater characterization study, which was required in previous Order R5-2008-0090. Based on data from 2002 to 2008, the Discharger concluded in the 2009 characterization study that downgradient mean concentrations were not statistically higher than the background concentrations for any parameter. However, based on the most recent groundwater monitoring data (2010 to 2012) the concentrations of some cosntituents are higher than the background groundwater levels, and in some cases exceed applicable water quality objectives (Figures F-1, F-2, F-3, and F-4). Therefore, this Order requires the Discharger to update its Groundwater Water Quality Characterization Study considering the new data. The Discharger is required to re evaluate and characterize natural background quality of monitored constituents in a technical report (Section VII.C.2.d. Limitations and Discharge Requirements). If the evaluation indicates any constituent concentrations were increasing above background water quality, the Discharger is required to submit a BPTC Evaluation Workplan as described in Section VII.C.2.e (Special Provisions).

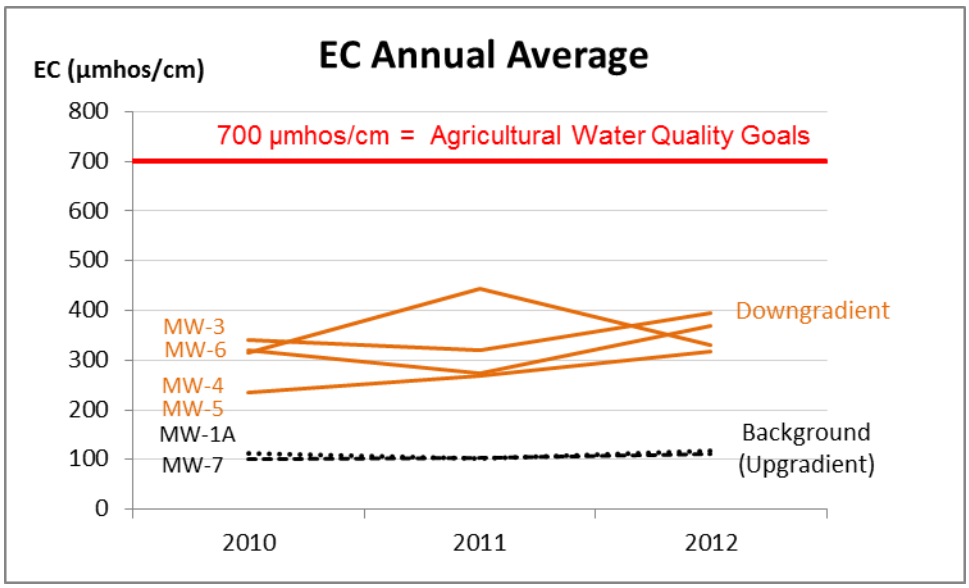


Figure F-1: EC groundwater monitoring wells exceed background cocentrations

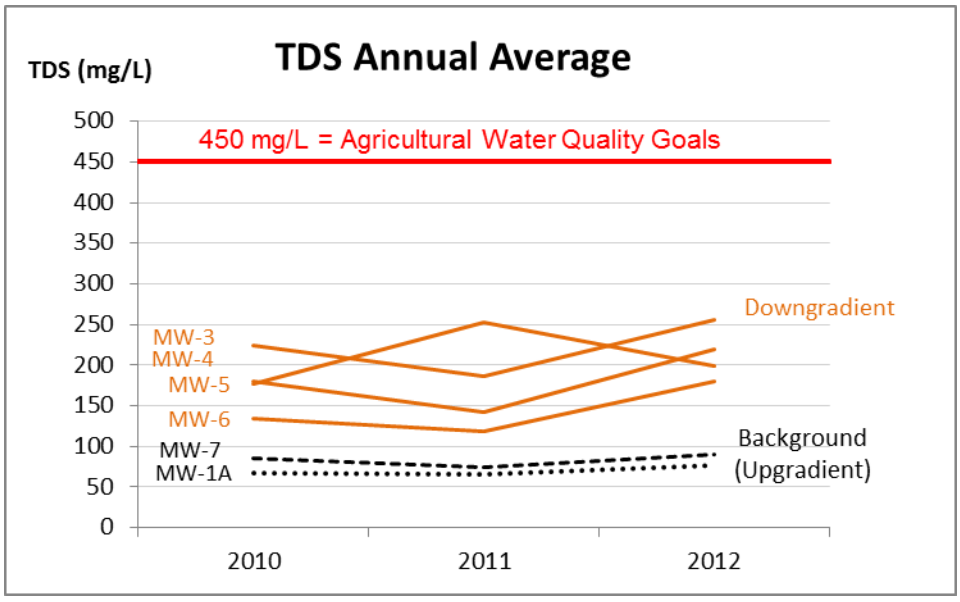


Figure F-2: TDS groundwater monitoring wells exceed background cocentrations

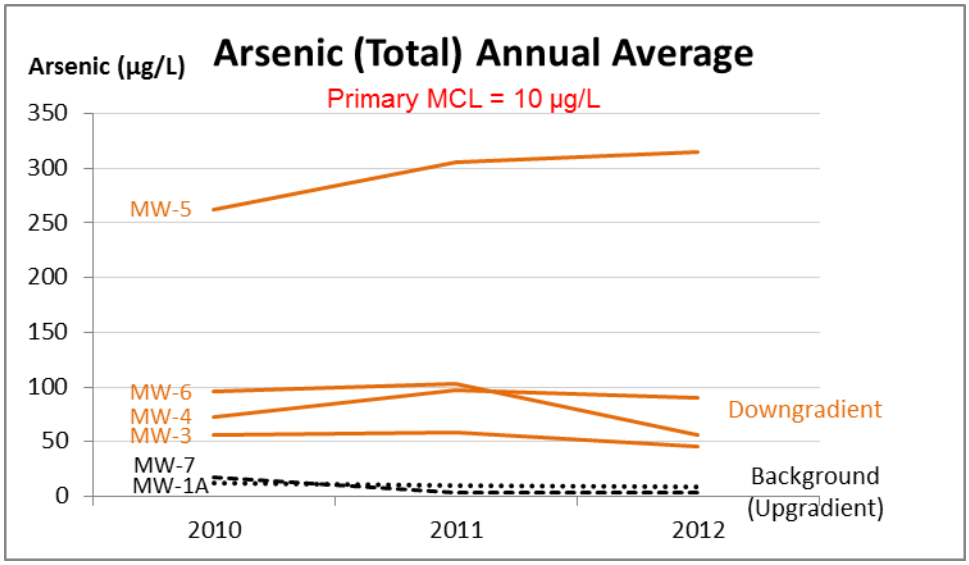


Figure F-3: Arsenic groundwater monitoring wells exceed background cocentrations

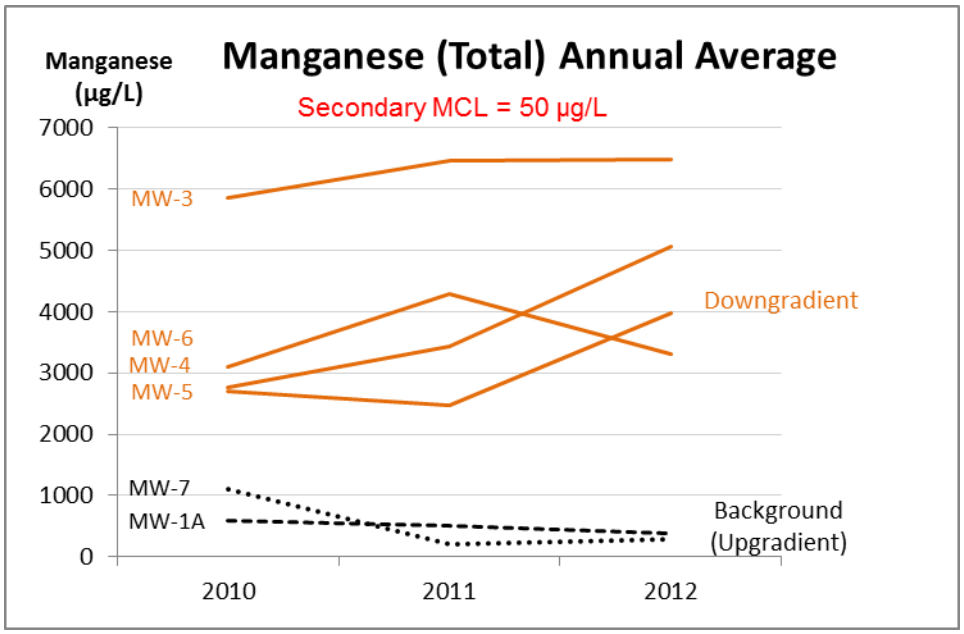


Figure F-4: Manganese groundwater monitoring wells exceed background cocentrations

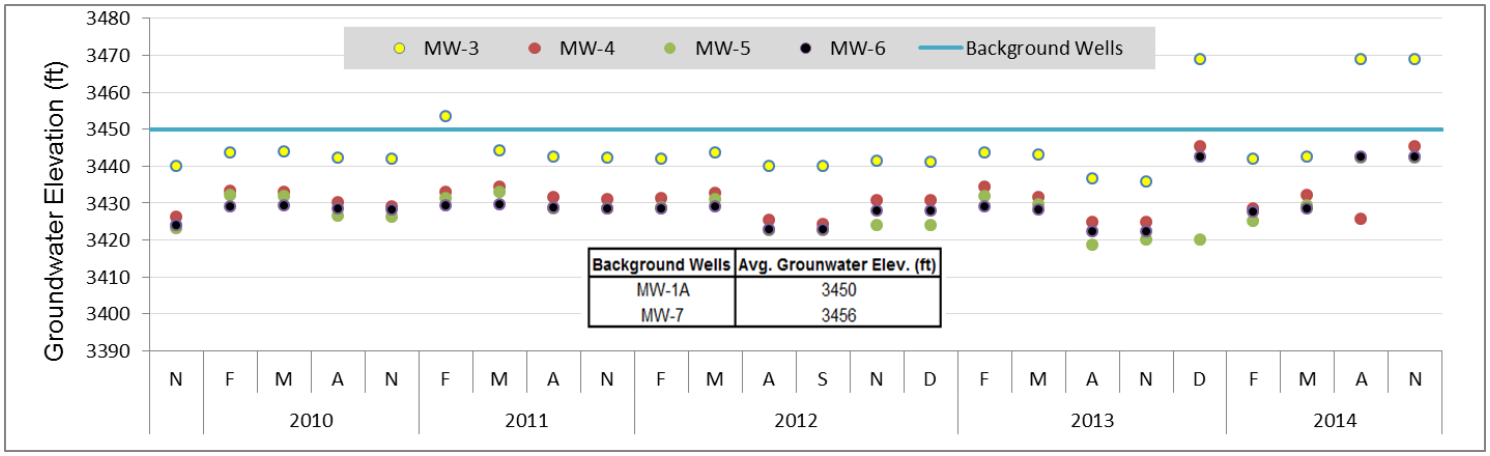


Figure F-5: Groundwater elevations in relation to background monitoring wells

Table F-~~23.~~22. Summary of Sampling and Background Groundwater Elevations

WELLS	Average Groundwater Elevation (ft above MSL)	Range of Groundwater Elevations (ft above MSL)
MW-3	3445	3435-3468
MW-4	3431	3424-3445
MW-5	3428	3419-3442
MW-6	3429	3422-3443
MW-7 (background)	3456	3445-3462
MW-1A (background)	3450	3440-3466

Table F-~~24.~~23. Effluent Data

Constituent	Average	MEC
EC (µmhos/cm)	225	357
Arsenic (µg/L)	4.2	6.8
Manganese (µg/L)	No Data	No Data

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBEL's for individual pollutants. The technology-based effluent limitations consist of restrictions on ~~COD,~~ pH~~,~~ and TSS for discharges of process wastewater at Discharge Point 001 and pH for discharges of industrial storm water at Discharge Point SW-001. Restrictions on these parameters are discussed in section IV.B.2 of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

WQBEL's have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBEL's were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating the individual WQBEL's for priority pollutants are based on the CTR implemented by the

SIP, which was approved by U.S. EPA on 18 May 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by U.S. EPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to U.S. EPA prior to 30 May 2000, but not approved by U.S. EPA before that date, are nonetheless "*applicable water quality standards for purposes of the CWA*" pursuant to 40 C.F.R. section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

Summary of Final Effluent Limitations

Table F-~~25.~~24. Summary of Final Effluent Limitations – Process Wastewater

Parameter	Units	Effluent Limitations				Basis[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants						
pH	standard units	--	--	6.0	9.0	ELG
Total Suspended Solids	mg/L	--	100	--	--	BPJ
Priority Pollutants						
Copper, Total Recoverable	µg/L	~~2.2~~2.6	~~4.5~~5.3	--	--	CTR
Lead, Total Recoverable	µg/L	~~0.56~~0.74	~~1.1~~1.5	--	--	CTR
Zinc, Total Recoverable	µg/L	~~21~~25	~~43~~50	--	--	CTR
Non-Conventional Pollutants						
~~Chemical Oxygen Demand~~	~~mg/L~~	~~--~~	~~100~~	~~--~~	~~--~~	~~BPJ~~
~~Iron, Total Recoverable~~	~~µg/L~~	~~300~~[2]	~~--~~	~~--~~	~~--~~	~~SEC MCL~~
Settleable Solids	ml/L	0.1	0.2	--	--	BP
Acute Toxicity	% Survival	--	70[3]/90[4]	--	--	BP
Chronic Toxicity	TUc	--	Narrative[5]	--	--	BP

1 ELG – Based on the effluent limitation guidelines for the Wet Storage Subcategory of the Timber Products Point Source Category contained in 40 C.F.R. part 429, subpart I.
BPJ – Based on Best Professional Judgment.
BP – Based on quality objectives contained in the Basin Plan.
CTR – Based on water quality criteria contained in the CTR and applied as specified in the SIP.
SEC MCL – Based on the Secondary Maximum Contaminant Level.

2 Applied as an annual average effluent limitation.

3 Minimum for any one bioassay.

4 Median for any three consecutive bioassays.

5 There shall be no chronic toxicity in the effluent discharge.

Table F-~~26.~~25. Summary of Final Effluent Limitations – Industrial Storm Water

Parameter	Units	Effluent Limitations				Basis[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants						
pH	standard units	--	--	6.0	9.0	BPJ
Non-Conventional Pollutants						
Settleable Solids	ml/L	0.1	0.2	--	--	BP
Acute Toxicity	% Survival	--	70[2]/90[3]	--	--	BP

[1] BPJ – Based on Best Professional Judgment.
BP – Based on interpretation of the narrative water quality objectives contained in the Basin Plan.
[2] Minimum for any one bioassay.
[3] Median for any three consecutive bioassays.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Central Valley Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that "[t]*he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses.*" The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains receiving surface water limitations based on the Basin Plan numerical and narrative water quality objectives for bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.

   a. **pH**. Order R5-2008-0090 established a receiving water limitation for pH specifying that discharges from the Facility shall not cause the ambient pH to change by more than 0.5 units based on the water quality objective for pH in the Basin Plan. The Central Valley Water Board adopted Resolution R5-2007-0136 on 25 October 2007, amending the Basin Plan to delete the portion of the pH water quality objective that limits the change in pH to 0.5 units and the allowance of averaging periods for pH. The Basin Plan amendment has been approved by the State Water Board, the Office of Administrative Law, and U.S. EPA. Consistent with the revised water quality objective in the Basin Plan, this Order does not require a receiving water limitation for pH change.

      In Finding No. 14 of Resolution R5-2007-0136 the Central Valley Water Board found that the change in the pH receiving water objective is consistent with the State Water Board Resolution No. 68-16, in that the changes to water quality objectives (i) consider maximum benefit to the people of the State, (ii) will not unreasonably

affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 C.F.R. § 131.12).

The relaxation of the pH receiving water limitation will protect aquatic life and other beneficial uses and will not unreasonably affect present and anticipated beneficial uses nor result in water quality less than described in applicable policies. The relaxation of the receiving water limitation is not expected to cause other impacts on water quality. The Central Valley Water Board finds that the relaxation of the pH receiving water limitation (i) is to the maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 CFR §131.12).

The revised receiving water limitation for pH, which is based on the amendment to the Basin Plan's pH water quality objective, reflects current scientifically supported pH requirements for the protection of aquatic life and other beneficial uses. The revised receiving water limitation for pH is more consistent with the current U.S. EPA recommended criteria and is fully protective of aquatic life and the other beneficial uses listed in the Basin Plan. Changes in pH when pH is maintained within the range of 6.5 to 8.5 are neither beneficial nor adverse and, therefore, are not considered to be degradation in water quality. Attempting to restrict pH changes to 0.5 pH units would incur substantial costs without demonstrable benefits to beneficial uses. Thus, any changes in pH that would occur under the revised pH limitation would not only be protective of beneficial uses, but also would be consistent with maximum benefit to people of the State. Therefore the proposed amendment will not violate antidegradation policies.

b. **Turbidity.** Order R5-2008-0090 established a receiving water limitation for turbidity specifying that discharges from the Facility shall not cause the turbidity to increase more than 1 NTU where natural turbidity is between 0 and 5 NTU based on the water quality objective for turbidity in the Basin Plan. The Central Valley Water Board adopted Resolution R5-2007-0136 on 25 October 2007, amending the Basin Plan to limit turbidity to 2 NTU when the natural turbidity is less than 1 NTU. The Basin Plan amendment has been approved by the State Water Board, the Office of Administrative Law, and U.S. EPA. Consistent with the revised water quality objective in the Basin Plan, this Order limits turbidity to 2 NTU when the natural turbidity is less than 1 NTU.

In Finding No. 14 of Resolution R5-2007-0136 the Central Valley Water Board found that the change in the turbidity receiving water objective is consistent with the State Water Board Resolution No. 68-16, in that the changes to water quality objectives (i) consider maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 C.F.R. § 131.12).

The relaxation of the turbidity receiving water limitation will protect aquatic life and other beneficial uses and will not unreasonably affect present and anticipated beneficial uses nor result in water quality less than described in applicable policies. The relaxation of the receiving water limitation is not expected to cause other impacts on water quality. The Central Valley Water Board finds that the relaxation of the turbidity receiving water limitation (i) is to the maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of

waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 CFR §131.12).

The revised receiving water limitation for turbidity, which is based on the amendment to the Basin Plan's turbidity water quality objective, reflects current scientifically supported turbidity requirements for the protection of aquatic life and other beneficial uses and, therefore, will be fully protective of aquatic life and the other beneficial uses listed in the Basin Plan. Changes in turbidity allowed by the revised receiving water limitation, when ambient turbidity is below 1 NTU, would not adversely affect beneficial uses and would maintain water quality at a level higher than necessary to protect beneficial uses. Restricting low-level turbidity changes further may require costly upgrades, which would not provide any additional protection of beneficial uses. Thus, any changes in turbidity that would occur under the amended turbidity receiving water limitation would not only be protective of beneficial uses, but also would be consistent with maximum benefit to people of the State. Therefore, the relaxed receiving water limitations for turbidity will not violate antidegradation policies.

B. Groundwater

1. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.
2. Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCL's in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.
3. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations

must be included in the Order. Section 123.25(a)(12) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

a. **Mercury.** This provision allows the Central Valley Water Board to reopen this Order in the event mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted. In addition, this Order may be reopened if the Central Valley Water Board determines that a mercury offset program is feasible for dischargers subject to NPDES permits.

b. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a TRE. This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

c. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper, lead, and zinc. If the Discharger performs studies to determine site-specific WER's and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

d. **Log Deck Flushing Study.** This Order requires the Discharger to complete a Log Deck Flushing Study to confirm that capturing the first 2 inches of rainfall will ensure residual pollutants on the log deck have been sufficiently removed. Based on the results of the Log Deck Flushing Study, this Order may be reopened for modification, or revocation and reissuance.

2. Special Studies and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at page III-8.00.) Based on whole effluent chronic toxicity testing performed by the Discharger in January 2012 and November 2012, the discharge of process wastewater has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

This provision provides a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as requirements for TRE or site-specific Toxicity Evaluation Study initiation if toxicity has been demonstrated.

Monitoring Trigger. A numeric toxicity monitoring trigger of **> 1** TUc (where TUc = 100/NOEC) is applied in the provision, because this Order does not allow any

dilution for the chronic condition. Therefore, a TRE or Toxicity Evaluation Study is triggered when the effluent exhibits toxicity at 100% effluent.

Accelerated Monitoring. The provision requires accelerated WET testing when a regular WET test result exceeds the monitoring trigger. The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is toxicity before requiring the implementation of a TRE. Due to possible seasonality of the toxicity, the accelerated monitoring should be performed in a timely manner, preferably taking no more than 2 to 3 months to complete.

The provision requires accelerated monitoring consisting of four chronic toxicity tests in a six-week period (i.e., one test every two weeks) using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control,* EPA/505/2-90-001, March 1991 (TSD). The TSD at page 118 states, "*EPA recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required.*" Therefore, four accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test). However, notwithstanding the accelerated monitoring results, if there is adequate evidence of effluent toxicity (i.e., toxicity present exceeding the monitoring trigger more than 20 percent of the time), the Executive Officer may require that the Discharger initiate a TRE.

See the WET Accelerated Monitoring Flow Chart (Figure F-6), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

TRE Guidance. The Discharger submitted a TRE Workplan in September 2008; therefore, a new TRE Workplan is not required as part of this Order. Numerous guidance documents are available, as identified below:

i. *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, EPA/833-B-99/002, August 1999.

ii. *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs)*, EPA/600/2-88/070, April 1989.

iii. *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition*, EPA 600/6-91/003, February 1991.

iv. *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA/600/6-91/005F, May 1992.

v. *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition*, EPA/600/R-92/080, September 1993.

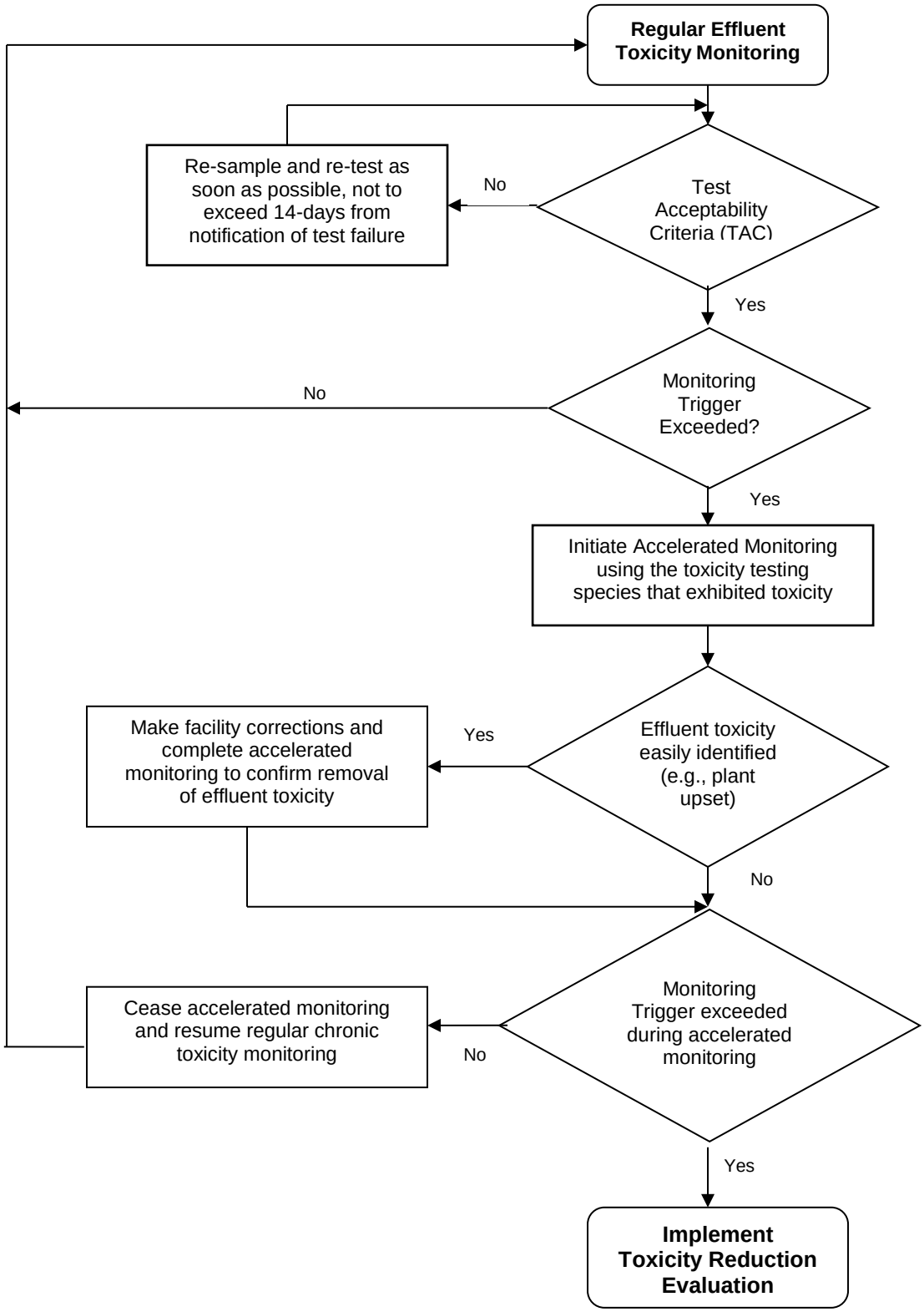
vi. *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition*, EPA 600/R-92/081, September 1993.

vii. *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition*, EPA-821-R-02-012, October 2002.

viii. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA-821-R-02-013, October 2002.

ix. *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991.

Figure F-6
WET Accelerated Monitoring Flow Chart



Site-Specific Toxicity Evaluation Study. The Facility is a sawmill and cogeneration facility that discharges process wastewater and industrial storm water from a 53.6-acre log deck. The discharge exhibited low level chronic toxicity in November 2012; however, no chronic toxicity testing was subsequently conducted. Facility discharges are predominantly storm water for which the most effective measures to reduce effluent toxicity are to re-evaluate BMP's. Due to the short-term and intermittent nature of the process wastewater and industrial storm water discharges, a site-specific Toxicity Evaluation Study may be more effective than accelerated monitoring for identifying and eliminating chronic toxicity in discharges from the Facility. Therefore, this provision allows the Discharger to conduct a Toxicity Evaluation Study, individually or as part of a coordinated group effort with other dischargers with similar discharges from sawmill log deck operations, to investigate the cause and eliminate toxicity in the effluent.

b. **Log Deck Flushing Study.** As discussed in section II.A of this Fact Sheet, for the purposes of this Order, the first flush is defined as the first 2 inches of rainfall from the 53.6-acre log deck area commingled with residual pond water on the paved log deck following cessation of log deck sprinkling. The practice of collecting the first 2 inches of log deck runoff is considered a BMP to reduce pollutants in the storm water discharge to surface water and is based on a log deck flushing study conducted by a nearby discharger with similar operations (Burney Forest Power). Order R5-2008-0090 required the Discharger to conduct a Log Deck Flushing Study to determine the minimum volume of flush or amount of rainfall that is required to ensure residual pollutants on the log deck have been sufficiently removed. However, the Discharger was unable to complete the study due to insufficient precipitation levels. Due to the variations in operations at different facilities, a site-specific study is necessary to confirm that capturing the first 2 inches of rainfall will ensure residual pollutants (e.g. process wastewater constituents) on the log deck have been sufficiently removed for discharges from the Facility. Therefore, this Order requires the Discharger to conduct a Log Deck Flushing Study to determine the minimum volume of flush or amount of rainfall that is required to ensure residual pollutants (e.g. process wastewater constituents) on the log deck have been sufficiently removed.

c. **Storm Water Action Levels and Best Management Practice (BMP) Improvement Evaluation.** As discussed in section IV.C.3.b of this Fact Sheet, this Order establishes action levels for constituents of concern in discharges of industrial storm water. The storm water action levels are pollutant concentrations, above which the Central Valley Water Board has determined the storm water discharge could adversely affect receiving water quality (and control measures must be evaluated). The storm water action levels are not effluent limitations. The levels are used to determine if storm water discharges from the Facility merits further monitoring to ensure that the Facility has been successful in implementing the Storm Water Pollution Prevention Plan (SWPPP) and/or if storm water pollution control measures must be reevaluated and improved upon.

   In order to address storm water action level exceedances and/or receiving water limitation violations, the Discharger must evaluate BMP's and make necessary improvements to the Facility BMP's in order to reduce pollutants in the storm water discharge and to ensure protection of water quality.

d. **Groundwater Characterization Study.** The Discharger monitors groundwater underlying the Facility via six monitoring wells, two of which are background monitoring wells. On 3 March 2009, the Discharger submitted a groundwater

characterization study, which was required in previous Order R5-2008-0090. The Discharger indicated that based on the results of the 2009 characterization study the downgradient mean concentrations were not statistically greater than the background concentrations for any constituent. However, based on the most recent groundwater monitoring data (2010 to 2012) the concentrations of certain cosntituents, including metals, are higher than the background groundwater levels (Figures F-1, F-2, F-3, and F-4). Therefore, this Order contains a Special Provision that requires the Discharger update its 2009 Groundwater Characterization Study, to be submitted by **1 February 2017**, in order to determine the natural background quality of the groundwater underlying the Facility and re-evaluate whether downgradient groundwater quality is degraded from background groundwater.

The study shall present a summary of monitoring data, calculation of the concentration in background monitoring wells, and a comparison of background groundwater quality to that in wells used to monitor the facility. Determination of background quality shall be made using the methods described in Title 27 California Code of Regulations Section 20415(e)(10), and shall be based on data from at least twelve consecutive quarterly (or more frequent) groundwater monitoring events. For each monitoring parameter/constituent, the report shall compare measured concentrations in the compliance monitoring wells with the calculated background concentration. In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. The technical report shall be prepared by or under the direction of appropriately qualified professional(s) and shall bear the professional's signature and stamp. minimizing the discharge's impact on groundwater quality.

e. **Antidegradation Analysis Update. Within 42 months** of the effective date of this Order, the Discharger shall submit an Antidegradation Analysis Update. The Antidegradation Analysis Update shall address existing discharges at the Facility and use information obtained from the groundwater monitoring and characterization required in section VI.C.2.d in addition to results of the land discharge andgroundwater monitoring to date. The update shall explain whether or not groundwater degradation as a result of Facility operations is consistent with State Water Board Resolution No. 68-16.If degradation greater than allowed by State Water Board Resolution No. 68-16, the Discharger **shall include a workplan** for Facility improvements (with an implementation schedule) sufficient to limit degradation for compliance with the antidegradation policy. Determination of background groundwater quality for use in the analysis shall be made using the methods described in Title 27 California Code of Regulations Section 20415(e)(10), or other method approved by the Executive Officer. After reviewing the Antidegradation Analysis Update, the Central Valley Water Board may reopen this Order as described in section VI.C.1 of this Order. The Central Valley Water Board may find that the existing discharge is or is not consistent with the State and Federal antidegradation policies, that additional information is necessary, or that Facility modifications sufficient to bring the discharge into compliance with antidegradation policies is required.

f. **Title 27 Exemption Analysis Update. Within 42 months** of the effective date of this Order, the Discharger shall submit a Title 27 Exemption Analysis Update (Title 27 Update). The Title 27 Update shall address existing discharges at the Facility and use the information and determinations presented in the technical reports

required by section VI.C.2.d and section VI.C.2.e. in addition to results of the land discharge and groundwater monitoring to date to explain whether or not the conclusions reached in the original Title 27 Exemption Analysis included in the Report of Waste Discharge (ROWD) are valid. After reviewing the Title 27 Update, the Central Valley Water Board may reopen this Order as described in section VI.C.1 of this Order. The Central Valley Water Board may find that a Title 27 exemption is or is not appropriate, that additional information is necessary, or that Facility modifications sufficient to bring the discharge into compliance with the Basin Plan is required.

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** An Evaluation and Minimization Plan for salinity is required to be updated and submitted to the Central Valley Water Board to ensure adequate measures are developed and implemented by the Discharger to reduce the discharge of salinity to Mill Creek.

b. **Storm Water Pollution Prevention Plan (SWPPP).** This Order requires the Discharger to implement BMP's, including treatment controls where necessary, in order to support attainment of water quality standards. The use of BMP's to control or abate the discharge of pollutants is allowed by 40 C.F.R. section 122.44(k)(3) because effluent limitations are infeasible and BMP's are reasonably necessary to achieve effluent limitations and are standards or to carry out the purposes and intent of the CWA. (40 CFR 122.44(k)(4).)

This Order requires the Discharger to develop and implement a site-specific SWPPP for the Facility. The SWPPP is necessary to identify potential sources of pollutants that may come in contact with storm water and to control or abate the discharge of pollutants to surface water or groundwater.

In order to maintain an accurate and useful SWPPP, the SWPPP must be revised when whenever there is a change in construction, site operation, or maintenance, which may affect the discharge of significant quantities of pollutants to surface water or groundwater. The SWPPP must also be amended if there are violations of this Order, or the Discharger has not achieved the general objectives of controlling pollutants in the storm water discharges.

4. Construction, Operation, and Maintenance Specifications

a. **Elimination of Process Wastewater Discharges to Surface Water**. This Order includes effluent limitations for copper, lead, and zinc for the process wastewater discharges to surface water, with which the Facility is unable to immediately comply. The Discharger has made Facility improvements in an effort to eliminate discharges of process wastewater to Mill Creek and has not requested a time schedule order. To demonstrate adequate progress in the elimination of process wastewater discharges to surface water this Order requires the Discharger complete the following tasks:

i. *Storm Water Conveyance*. The Discharger shall complete installation of a conveyance system (e.g., piping and pumping facilities) to deliver collected industrial storm water to the new storm water irrigation pond by **1 February 2016**. The Discharger shall include a demonstration of completion of these facilities in the annual progress report.

ii. *Water Balance*. The Discharger shall conduct an evaluation of the Facility's ability to store all process wastewater to eliminate surface water discharges.

This evaluation shall include a water balance that considers reasonable-worst case precipitation conditions, and shall be submitted **1 June 2019 or within 6 months** of submittal of the Log Deck Flushing Study required in Section VI.C.2.b, whichever is sooner.

iii. *Progress Reports*. The Discharger shall submit progress reports on **1 February, annually.** The annual progress reports shall detail the steps that have been implemented towards eliminating the process wastewater discharges to surface water, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to eliminate the discharge by 1 June 2020.

~~c.~~b. **Storm Water Certification.** This Order includes two sets of effluent limitations for discharges of process wastewater and industrial storm water. During wet weather, first flush storm water from the 53.6-acre log deck area is routed to Ponds 1 and 2, and immediately pumped from Pond 2 to the retention pond until completely emptied. Should discharges of process water be necessary, discharges would occur from Pond 2 through a gravel diffuser and weir box to Mill Creek at Discharge Point 001. Subsequent to the emptying of process water from Ponds 1 and 2, industrial storm water (i.e., subsequent to the first flush) from the 53.6-acre log deck area is directed to Ponds 1 and 2, from which it may be discharged to Mill Creek at Discharge Point SW-001. In order to distinguish between process wastewater and industrial storm water discharges, this Order requires the Discharger to submit a letter to the Central Valley Water Board certifying that the ponds do not contain process wastewater within 7 days of the emptying of Ponds 1 and 2 of all process wastewaters.

~~d.~~c. **Pond Operation Requirements.** The operation and maintenance specifications for PND-002 and PND-005 (Retention Pond) are necessary to ensure proper operation of the ponds and minimize the potential for impacts to groundwater quality and are necessary to protect the beneficial uses of the groundwater. In addition, reporting requirements related to use of PND-002 and PND-005 are required to monitor their use and the potential impact on groundwater.

5. Special Provisions for Municipal Facilities (POTW's Only) – Not Applicable

6. Other Special Provisions

a. **Sludge, Wood Waste, and/or Ash Management.** Sludge disposal provisions are necessary to ensure proper disposal of collected screening, sludges, wood ash, wood waste, and other solids removed from liquid wastes, ponds, or other sources in a manner that is consistent with Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1, Section 20005, et seq, and approved by the Executive Officer.

7. Compliance Schedules – Not Applicable

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that

implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring – Not Applicable

B. Effluent Monitoring

1. Pursuant to the requirements of 40 C.F.R. section 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.
2. This Order includes two sets of effluent limitations for discharges of process wastewater and industrial storm water. In order to distinguish the types of wastewater to be discharged and the corresponding effluent limitations, this Order establishes two effluent monitoring locations: Monitoring Location EFF-001 for discharges of process wastewater and Monitoring Location SW-001 for discharges of industrial storm water. Samples at both monitoring locations shall be collected at the point of discharge from Pond 2 prior to commingling with general industrial storm water discharges from Pond 4 in the gravel diffuser and prior to discharge to the receiving water. The monitoring frequencies and sample types for both discharge locations are identical.
3. Effluent monitoring frequencies and sample types for oil and grease (semi-annually), pH (weekly), TSS (monthly), copper (monthly), lead (monthly), COD (monthly), electrical conductivity (weekly), hardness (semi-annually), iron (monthly), settleable solids (weekly), tannins and lignins (monthly), and turbidity (weekly) have been retained from Order R5-2008-0090 to determine compliance with effluent limitations, where applicable, and characterize the effluent for these parameters.
4. For effluent flow, Order R5-2008-0090 specified a sample type of continuous and a minimum sampling frequency of weekly. In order to more accurately characterize the flow of the short-term, intermittent discharges from the Facility, this Order revises the flow monitoring requirements to a daily flow estimate.
5. Monitoring data collected over the term of Order R5-2008-0090 for process wastewater demonstrated that the discharge exhibits reasonable potential to cause or contribute to an exceedance of water quality criteria for zinc, and this Order establishes new effluent limitations for zinc for the process wastewater. Therefore, this Order establishes monthly monitoring requirements for zinc to determine compliance with the applicable effluent limitations.
6. Monitoring data collected over the term of Order R5-2008-0090 for bis (2-ethylhexyl) phthalate did not demonstrate reasonable potential to exceed water quality objectives/criteria. Thus, specific monitoring requirements for bis (2-ethylhexyl) phthalate have not been retained from Order R5-2008-0090.
7. In accordance with Section 1.3 of the SIP, periodic monitoring for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established is required. This Order requires monitoring during the first process wastewater discharge event and the first industrial storm water discharge event that occur during the permit term in order to collect data to conduct an RPA for the next permit renewal. See section IX.D of the MRP for more detailed requirements related to performing priority pollutant monitoring.
8. Water Code section 13176, subdivision (a), states: "*The analysis of any material required by [Water Code sections 13000-16104] shall be performed by a laboratory that*

has accreditation or certification pursuant to Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code." The State Water Board, Division of Drinking Water (DDW) certifies laboratories through its Environmental Laboratory Accreditation Program (ELAP).

Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the CWA. (Wat. Code §§ 13370, subd. (c), 13372, 13377.) Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with CWA requirements. (Wat. Code § 13372, subd. (a).) The holding time requirements are 15 minutes for chlorine residual, dissolved oxygen, and pH, and immediate analysis is required for temperature. (40 C.F.R. § 136.3(e), Table II) Due to the location of the Facility, it is both legally and factually impossible for the Discharger to comply with section 13176 for constituents with short holding times.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Order R5-2008-0090 required semi-annual monitoring for acute toxicity, with the option to reduce monitoring to annually if no toxicity was measured in the first 2 years of monitoring. The effluent exhibited acute toxicity in two of four samples collected between September 2011 and August 2014, with a minimum observed percent survival of 50%. Therefore, semi-annual 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.

2. **Chronic Toxicity.** Consistent with Order R5-2008-0090, annual chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

1. Surface Water

a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.

b. Order R5-2008-0090 defined Monitoring Location RSW-002 as being located in Mill Creek 600 feet downstream of Discharge Point 001. As observed during a 12 November 2014 site visit, this location is just upstream of a bridge crossing Bell Lane, where storm water runoff from the road may influence sample results. Therefore, this Order re-locates Monitoring Location RSW-002 50 feet upstream of the location specified in Order R5-2008-0090.

c. Receiving water monitoring requirements at Monitoring Locations RSW-001 and RSW-002 have been retained for pH (weekly), dissolved copper (monthly), dissolved lead (monthly), electrical conductivity (weekly), hardness (semi-annually), iron (monthly), and turbidity (weekly).

d. This Order establishes monthly receiving water monitoring for dissolved zinc to determine the impact of the discharge on the receiving water.

e. Order R5-2008-0090 required annual monitoring for priority pollutant metals. This Order includes monthly receiving water monitoring for those priority pollutant metals that demonstrated reasonable potential to contribute to an exceedance of water quality objectives in the process wastewater discharge (i.e., copper, lead, and zinc) and for which storm water action levels have been established (i.e., copper and zinc). The remaining metals did not exhibit reasonable potential to cause or contribute to exceedance of water quality objectives; therefore, monitoring requirements for the remaining priority pollutant metals has not been retained in this Order.

f. In accordance with Section 1.3 of the SIP, periodic monitoring for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established. This Order requires monitoring for priority pollutants and other pollutants of concern during the first process wastewater discharge event and the first industrial storm water discharge event that occur during the permit term in the upstream receiving water, concurrent with effluent monitoring, in order to collect data to conduct an RPA for the next permit renewal. See section IX.D of the Monitoring and Reporting Program (Attachment E) for more detailed requirements related to performing priority pollutant monitoring.

2. Groundwater

a. Water Code section 13267 states, in part, "(a) A *Regional Water Board, in establishing…waste discharge requirements… may investigate the quality of any waters of the state within its region" and "(b) (1) In conducting an investigation…, the Regional Water Board may require that any person who… discharges… waste…that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.*" The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, a Regional Water Board shall provide the person with a written explanation with regard to the need for the reports, and

shall identify the evidence that supports requiring that person to provide the reports. The Monitoring and Reporting Program is issued pursuant to Water Code section 13267. The groundwater monitoring and reporting program required by this Order and the Monitoring and Reporting Program are necessary to assure compliance with these waste discharge requirements. The Discharger is responsible for the discharges of waste at the facility subject to this Order.

b. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents which may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide best practicable treatment or control to comply with Resolution No. 68-16. Economic analysis is only one of many factors considered in determining best practicable treatment or control. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened and specific numeric limitations established consistent with Resolution No. 68-16 and the Basin Plan.

c. This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with Central Valley Water Board plans and policies, including Resolution No. 68-16. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

d. Quarterly monitoring for depth to groundwater, groundwater elevation electrical conductivity, total dissolved solids, pH, temperature, tannins and lignins, priority pollutants metals, managenese, and standard minerals is retained from Order R5-2008-0090.

e. Quarterly monitoring for gradient and gradient direction have been added to obtain updated information on the direction of the internal flow of the wells and interpret monitoring well results accurately.

E. Other Monitoring Requirements

1. Precipitation Monitoring

Precipitation monitoring is necessary to assess the amount of rainfall that falls on the log deck area.

2. Ash and Cooling Tower Solids Monitoring

The annual ash and cooling tower sludge report is necessary to determine the quantity of ash and cooling tower sludge generated at the facility and to ensure the proper handling of such material.

3. Pond Monitoring

Settling pond, retention pond, and irrigation pond monitoring requirements for freeboard and settled matter depth are necessary to assess compliance with pond operating requirements and to ensure pond integrity. Settling pond, retention pond, and irrigation pond monitoring for total dissolved solids, priority pollutant metals, iron, and manganese is necessary to assess the impacts of the discharge on groundwater.

VIII. PUBLIC PARTICIPATION

The Central Valley Water Board has considered the issuance of WDR's that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDR's and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through posting of a Notice of Public Hearing at the Plumas County Courthouse and at the Facility. The tentative Order was also posted on the Central Valley Water Board's website.~~the following <Describe Notification Process (e.g., newspaper name and date)>~~

The public had access to the agenda and any changes in dates and locations through the Central Valley Water Board's website at:
http://www.waterboards.ca.gov/centralvalley/board_info/meetings/

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDR's as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the Central Valley Water Board at the address on the cover page of this Order.

To be fully responded to by staff and considered by the Central Valley Water Board, the written comments were due at the Central Valley Water Board office by 5:00 p.m. on **24 April 2015**.

C. Public Hearing

The Central Valley Water Board held a public hearing on the tentative WDR's during its regular Board meeting on the following date and time and at the following location:

Date:	4/5 June 2015
Time:	8:30 a.m.
Location:	Regional Water Quality Control Board, Central Valley Region 11020 Sun Center Dr., Suite #200 Rancho Cordova, CA 95670

Interested persons were invited to attend. At the public hearing, the Central Valley Water Board heard testimony pertinent to the discharge, WDR's, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

Any aggrieved person may petition the State Water Board to review the decision of the Central Valley Water Board regarding the final WDR's. The petition must be received by the State Water Board at the following address within 30 calendar days of the Central Valley Water Board's action:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

For instructions on how to file a petition for review, see
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley Water Board by calling (530) 224-4845.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDR's and NPDES permit should contact the Central Valley Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Dania Jimmerson at (916) 464-4742.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Table G-1. Summary of Reasonable Potential Analysis for Discharges of Process Wastewater

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Copper, Total Recoverable	µg/L	24.5	4.1	3.3	4.5	3.3	1,300	--	--	1,000	Yes
Electrical Conductivity @ 25°C	µmhos/cm	271[1]	92[1]	900	--	--	--	--	--	900	No
Iron, Total Recoverable	µg/L	1,468[1]	710[1]	300	--	--	--	--	--	300	~~Yes~~No[(2)]
Lead, Total Recoverable	µg/L	4.9	1.4	0.69	18	0.69	--	--	--	15	Yes
Zinc, Total Recoverable	µg/L	108	3.1	43	43	43	--	--	--	5,000	Yes

General Note: All inorganic concentrations are given as a total recoverable.
MEC = Maximum Effluent Concentration
B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
C = Criterion used for Reasonable Potential Analysis
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
Water & Org = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)
Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level
NA = Not Available
ND = Non-detect

Footnotes:
(1) Represents the maximum observed average annual concentration for comparison with the Secondary MCL.
~~(1)~~(2) See Attachment F, Section IV.C.3.a.i.

Table G-2. Summary of Compliance with Receiving Water Objectives for Discharges of Industrial Storm Water

Constituent	Units	Max EFF-001	Max RSW-001	Max RSW-002	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	RW Obj. Met?[1]
Chemical Oxygen Demand	mg/L	366	--	--	120[2]	--	--	--	--	--	--	Inconclusive
Copper, Total Recoverable	µg/L	24.5	4.1	4.6	4.7[3]	6.6[3]	4.7[3]	1,300	--	--	1,000	Yes
~~Iron, Total Recoverable~~	~~µg/L~~	~~2,920 1,468[4]~~	~~1,550 710[4]~~	~~1,860 1,004[4]~~	~~300~~	~~--~~	~~1,000[5]~~	~~--~~	~~--~~	~~--~~	~~300~~	~~No~~
Tannins and Lignins	mg/L	49.2	--	--	--	--	--	--	--	--	--	Inconclusive
Total Suspended Solids	mg/L	96	--	--	100[2]	--	--	--	--	--	--	Inconclusive
Zinc, Total Recoverable	µg/L	108	3.1	7.7	61[3]	61[3]	61[3]	--	--	--	5000	Yes

Data set from September 2011 through August 2014.
Max EFF-001 = Maximum Effluent Concentration (Note that moniotirng data for industrial storm water only is not available).
Max RSW-001 = Maximum Upstream Receiving Water Concentration or lowest detection level, if all values are non-detect.
Max RSW-002 = Maximum Downstream Receiving Water Concentration or lowest detection level, if all values are non-detect.
C = Criterion used for Reasonable Potential Analysis
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
Water & Org = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)
Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level (Primary MCL)
NA = Not Available
ND = Non-detect

Footnotes:
(1) Evaluates whether the maximum upstream and downstream concentrations are at or below the most stringent criteria, C.
(2) Benchmark value from U.S. EPA NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activities (MSGP) for sector-specific timber products industry.
(3) Hardness-dependent criterion was calculated using average receiving water hardness concentration of 45 mg/L as $CaCO_3$.
(4) Represents the maximum observed average annual concentration for comparison with the Secondary MCL.
(5) U.S. EPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 4-day average.

ATTACHMENT H – CALCULATION OF WQBEL'S

Aquatic Life WQBEL's Calculations															
Parameter	Units	Criteria		Dilution Factors		Aquatic Life Calculations							Final Effluent Limitations		
		CMC	CCC	CMC	CCC	ECA Multiplier$_{acute}$	LTA$_{acute}$	ECA Multiplier$_{chronic}$	LTA$_{chronic}$	AMEL Multiplier$_{95}$	AWEL Multiplier	MDEL Multiplier$_{99}$	AMEL [1]	AWEL [2]	MDEL [3]
Copper, Total Recoverable	µg/L	~~4.5~~5.3	~~3.3~~3.9	--	--	0.32	~~1.4~~1.7	0.53	~~1.7~~2.1	1.55	--	3.11	~~2.2~~2.6	--	~~4.5~~5.3
Lead, Total Recoverable	µg/L	~~18~~22	~~0.690~~.90	--	--	0.32	~~5.8~~7.1	0.53	~~0.360~~.47	1.55	--	3.11	~~0.560~~.74	--	~~1.1~~1.5
Zinc, Total Recoverable	µg/L	~~43~~50	~~43~~50	--	--	0.32	~~14~~16.1	0.53	~~23~~26.4	1.55	--	3.11	~~21~~25	--	~~43~~50

[1] Average Monthly Effluent Limitations are calculated according to Section 1.4 of the SIP using a 95th percentile occurrence probability.
[2] Average Weekly Effluent Limitations are calculated according to Section 1.4 of the SIP using a 98th percentile occurrence probability.
[3] Maximum Daily Effluent Limitations are calculated according to Section 1.4 of the SIP using a 99th percentile occurrence probability.